

Vol 7 No 5

The Australian **COMMODORE** and **AMIGA REVIEW**

Blade

May \$3.50*

1995

7\$3.50

MUSIC MANIA

Amiga Reviews
Dr. T's Latest
Bars & Pipes
Music-X

64 Music Tutorial

Super Explode
64 Graphics Power

Making Sprites

Beyond 2MB
On Your A500

Entertainment:

Sports Simulations
Hot Tips and
High Scores



Competition PRO

5000

**Arcade Quality Joystick for
Video Game/Computer Systems.**

WITH
MICROSWITCHES



The full range of arcade quality
Competition PRO Joysticks now distributed
and serviced in Australia
by:



COMPUTERMATE
products (australia) pty. ltd.

9 High St., Mt. Kuring-Gai, NSW 2080.
Ph: (02) 457 8388 Fax: (02) 457 8739.

**2 YEAR WARRANTY
ON ALL COMPETITION PRO
PRODUCTS.**

The Australian COMMODORE and Amiga Review

VOL. 7 NO. 5

May 1990

Contributors

Mario Annetta
Andrew Baines
Jon Benjamin
Phil Campbell
Oben Candemir
Nathan Cochrane
Damien Disney
Peter Gallen
Anthony Gillan
Michael Hassett
Eric Holroyd
Stuart Kennedy
David Legard
Timothy Lockwood
Rod McCallum
Dennis Nicholson
Marco Ostini
Frank Patterson
Ian Preston
Adam Rigby
Phil Rigger
Adrian Sheedy
Richard Silsby
Lindsay Swadling
Tony Smith
Trevor Smith
Michael Spiteri
Tim Strachan
David Thompson
Nick Van Heeswyk
Harry Waterworth
David Williams
Graham Winterflood

CONTENTS

Editorial	Keeping Amiga and C64/128 owners up to date	2
News	ECP name change, retail dilemma	3
Notepad	Amiga Vision, The Advantage, new Audiomaster, family tree software <i>AMIGA and C64/128</i>	5
Letters	Opinions and queries from readers	8
Features		
Music for Beginners	Making music with your C64/128 <i>C64/128</i>	10
Amiga Music Now	The latest releases, including Music X and Bars and Pipes <i>AMIGA</i>	12
Reviews		
What's new from Dr T	Keyboard Controlled Sequencer V.3, Copyist Apprentice, Level II V.3, Tiger Cub <i>AMIGA</i>	17
Super Explode! V.5	New graphics and utility cartridge <i>C64/128</i>	22
QED 1	Public domain Amiga text editor <i>AMIGA</i>	28
Minimegs vs ProRam	Expanding your A500's memory <i>AMIGA</i>	30
Distant Suns	Comprehensive astronomy program <i>AMIGA</i>	34
Desktop Video Column	Pro Video Plus and CGI <i>AMIGA</i>	51
Programming		
CLI Tutorial	Coming to grips with the CLI - for beginners <i>AMIGA</i>	38
All About Sprites	Multi-coloured sprites, collision detection etc <i>C64</i>	44
Questions Beginners Ask	Window gadgets, what to do if stuck	47
Histograms	How to draw a bar chart	48
Entertainment		
That's Entertainment	News, Letters, Hints and Tips, High Scores <i>AMIGA and C64</i>	58
Game Reviews	Sports Simulations Special - Pro Tennis Tour, Skidoo, Table Tennis, Aussie Games, Trump Castle, International Team Sports, Soccer Squad <i>AMIGA and C64</i>	61
Adventurer's Realm	Help for problems, hints and tips, reviews of Ooze, Legend of Djel, and Fire King <i>AMIGA and C64</i>	70
Advertisers Index		72

Amiga Annual 1990

only \$6.95
for heaps of information

From your
newsagent or
computer store

Or direct from
Australian
Commodore Review
21 Darley Rd
Randwick 2031
(02) 398 5111

Australian Commodore Review
21 Darley Road, Randwick, NSW 2031
Phone: (02) 398 5111
Published by: Saturday Magazine Pty Ltd.
Editor: Andrew Farrell
Entertainment Section Editor: Phil Campbell
Advertising: Ken Longshaw
(02) 398 5111 or (02) 817 2509

Production: Brenda Powell
Layout: Tristan Mason
Subscriptions & back issues:
Andrew Dunstall (02) 398 5111
Distribution: NETWORK Distribution
Printed by: Ian Liddell Pty Ltd

COMPUTAMART

FIRST WITH THE BEST

SuperPic Amiga (improved Version) **RRP \$ 1699**

Real-time digitising with genlock. Software to take advantage of the Amiga's colourful 4096 colour HAM display: including overscan and interlace as well as 32 colour mode. Writes IFF compatible and custom format picture files. Works with A2000, A500 (A1000 with adapter).

SuperPic PC **RRP \$ 1699**

Includes IBM interface card and UHF TV framestore output. The framestore system means that even non-VGA PC users can save and recall colour images. Software to produce 256 colour VGA images from a palette of 256,000 and write GIF, PCX and custom format files.

ColourPic Amiga **RRP \$ 1499**

Similar specification to SuperPic Amiga, without genlock but includes UHF TV output.

GVP new A3001 Accelerator Kit for A2000

68030/68882/4meg/28mhz RRP \$ 4649

68030/68882/4meg/33mhz RRP \$ 6119

68030/68882/4meg/40mhz RRP \$ 7579

All available with 40MB or 80MB

Quantum hard drive, please call for price.

Distributed in Australia by

Computamart

Computamart Pty. Ltd., 622 Newcastle Street, Leederville, W. Australia 6007
Telephone (09) 328 9799, Fax (09) 227 7324, BBS (09) 328 4217

LEADERS IN PC ENTERTAINMENT

Dealer enquiries welcome

Editorial

TAKE A CLOSE look at this month's cover and you may be able to pick the fact that it was produced using an Amiga. Sure - we've produced artwork before, but this time, with help from Andre Alexander, we managed to produce the entire front cover using *Professional Page* and *Professional Draw*. Colour separations are a fiddly business, but the fiddling is well worth the cost saving. We hope to use the Amiga much more in the *Australian Commodore and Amiga Review* to help us produce a better magazine.



The Amiga has shown itself capable of some very serious productive and creative processes of late. A large number of professional users and serious enthusiasts have appeared. Whilst the *Commodore Review* has always endeavoured to cater for everyone's tastes, there isn't always room to do everything. So, starting July, a new magazine will be launched catering specifically for the Professional Amiga User. It will concentrate on Desktop Publishing, Desktop Video, Business Software and the more serious ways of using an Amiga. Best of all, it will be fully desktop published using the Amiga.

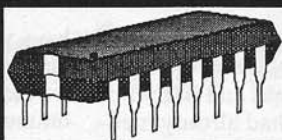
So, that should keep Amiga owners happy. The *Australian Commodore and Amiga Review* will continue to cover the Amiga to its fullest extent, the Commodore C64/C128 as an everything machine and all Commodores as entertainment computers. The Commodore 64 has more users, enthusiastic users, than any other computer in Australia. We will continue to cater for them fully.

This month there's a review of the new Super Explode cartridge - proof that some of the best C64 peripherals are yet to arrive. Greg Perry continues his regular column on Sound and Graphics, and as yet we still haven't discovered a GEOS columnist ... any takers?

On the music scene, Phil Rigger and Eric Holroyd bring Amiga users up to date. Phil has worked seriously with the Amiga in a MIDI environment for a number of years, and Eric - a household name with C64 lovers - is a musician from back before they had electricity. Both agree that the Amiga is now a truly serious music computer. It's good to see the technically most advanced machine getting software to match its capabilities. □

Andrew Farrell

Ram Rumbles



ECP name change

● As from the 1st of April 1990, Entertainment and Computer Products Pty Ltd has changed its name to Electronic Arts Entertainment Pty Ltd, wholly owned by Electronics Arts USA.

Although accessories will still be marked ECP, all software and other stock will have the Electronic Arts brand.

Electronic Arts is one of the largest publishers and distributors of good quality software in the world. They have offices in the United Kingdom, North America (Head Office), New Zealand, Japan and Australia. Electronic Arts has a staff of over 300 people world wide. The annual turnover for 1990/91 is envisaged to be \$120,000,000. The company expects this figure to increase in the coming years as it is not only writing games for Amiga, IBM, C64, Apple, Atari, Amstrad but also for the Nintendo and Sega video games as well.

In Northern America and Europe they distribute for twelve affiliated labels, to mention a few - SSI, Lucas Films, Software Toolworks, Miles Computing, Three Sixty, New World Computing, Cinema Ware and California Dreams. In fact, Electronic Arts has the largest affiliated label program in the entertainment software business, and the Australian company will benefit greatly from this. Electronic Arts Australia will be releasing some top titles this year and even more in 1991.

Retail dilemma

● Many of our readers' letters make some rather scathing remarks about retailers. Often these are just isolated examples of service gone wrong, but occasionally the same computer store name keeps popping up. Shopping for advice is always harder than shopping for a good price. It seems when it comes to buying a wordprocessor, both the aforementioned can be difficult to obtain.

We recently conducted a brief survey of several Australian computer stores. The results were a rather disappointing morning of phone calls. Posing as a potential serious wordprocessor consumer, we asked for their recommendations.

The first store suggested either *Pen Pal* or *Excellence!!*, although in the same breath the salesperson said he had never used either for much serious work. We

told the salesperson we had tried both and found *Pen Pal*'s spell checking facility to be somewhat simplistic for serious writing. The salesperson explained that most wordprocessors, spell checkers work in much the same fashion. Untrue.

We suggested *Excellence!!* as an example of a very powerful spell-checker, which was unfortunately too slow when editing long documents. *Excellence!* works well with a dot-matrix printer once you have all your printer settings correct, but on our imaginary requirement for a LaserJet compatible solution, *Excellence!* is a tad awkward to use.

It was then suggested we could use *Kindwords*. How ludicrous. Although a fine editor for simple letter writing, *Kind-*

C64 SOFTWARE

EXTENSIVE RANGE OF PUBLIC DOMAIN SOFTWARE FROM UK, USA, AUSTRALIA.

EACH DISK CONTAINS MANY EXCITING PROGRAMS FOR ONLY \$5 PER DISK.

● SPECIAL ●
INTRODUCTORY
OFFER

5 DISKS - \$20

+ FREE CATALOGUE DISK

● GAMES ● GRAPHICS

● UTILITIES

● TUTORIALS

IMMEDIATE DELIVERY

☐ PLEASE SEND 5 DISK OFFER
\$20 CHQ/M.O. ENCLOSED

Please tick your preference(s):

☐ Games ☐ Computing
☐ Art ☐ General

☐ PLEASE SEND FREE
CATALOGUE

Name: _____

Address: _____

PostCode: _____

Post To: BRUNSWICK PUBLICATIONS
29 WATSON STREET
BONDI NSW 2026

☆ SUBSCRIBE ☆

The Australian
**COMMODORE
and AMIGA REVIEW**

*Make sure of
getting
your copy
Subscribe now!*

Please enrol me for _____ issues
subscription to The Australian
Commodore and Amiga Review,
commencing with the _____
issue.

I enclose a cheque/money order
for \$_____

Please charge my Bankcard

Bankcard number: _____

Expiry date: _____

Name: _____

Address: _____

Postcode: _____

Please tick applicable box

First Subscription ☐

Renewal ☐

TO: The Australian
Commodore
and Amiga Review
21 Darley Road,
Randwick NSW 2031
(02) 398 5111

Rates within Australia:

6 issues \$19.00 (inc postage)

12 issues \$36.00 (inc postage)

Minimum OS postage \$35.00 AUS

(Air Mail) more for some countries

If you don't want to cut this out
photocopy it or just send a letter.

☆ NOW ☆

words is certainly no alternative to either of the above two. What about *WordPerfect*? According to the voice at the other end of the phone, *WordPerfect* was not available, and it did not work too well on an Amiga 500 anyway. We had already mentioned the fact that we were using an Amiga 2000. The person concerned seemed uninterested in our needs. Thank you, we will try somewhere else.

For this gentleman's information, *WordPerfect* remains the only truly professional wordprocessing package for the Amiga - it is most definitely still available. However, it is expensive, and lacks some of the usual Amiga type features. The latest upgrade includes a few small improvements which make use of the mouse a little more. On the whole, *WordPerfect* remains a powerful, but slightly slow port of a PC program. We are using *WordPerfect* now, and love it.

We began to wonder how many other computer stores would be equally misinformed or difficult to deal with. We were in for a shock. Our phone call to the next store was answered very professionally. As we waited for assistance, a recorded voice told about all the latest Amiga specials and suggested we call by for a demonstration. At last, we thought, a company who are truly selling Amiga solutions.

Indeed they were, but at a price. We explained our needs to a giggly teenage sounding person who recommended *Pen Pal*. Yes, a very good choice, but the spell checking is not up to scratch. What else do you recommend? Well, chuckle chuckle,

have you tried *Excellence!*. It is expensive - \$500, but it is excellent - chuckle.

Hold onto your socks, is that not somewhat above the recommended retail price? Indeed, *Excellence!* has a recommended retail price in Australia of \$299 or \$399 depending which supplier you purchase the package from. The \$399 is an old price - which means it is reasonably likely that the shop in question was making a considerable cut above their wholesale price.

Now it is not for us to say what retailers should charge for software. However, it is only fair that consumers should be well informed and know that some computer stores do not blush at charging considerably more than the price recommended by the publisher. Productivity software for the Amiga is already an expensive proposition thanks to our geographic isolation, and market size. Why anyone would deem it necessary to place an even greater burden on the wallets of Amiga owners remains a mystery.

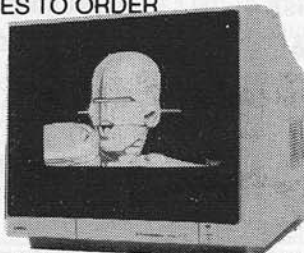
Considering the market is growing, if anything prices should be falling.

Aware of this situation, it would be wise to shop around for price and advice before rushing into a purchase. Some stores are better than others. In Sydney, Computer Spot Hornsby and Chatswood both have an excellent reputation when it comes to good advice. If you have a complaint about a particular store, please write and keep us informed. Readers concerned about the validity of pricing are encouraged to contact the Australian distributor directly to ascertain the correct recommended retail price. If you're unsure about advice, try your local user group, BBS or phone our editorial office. □

HI-TEK MONITOR FILTER

COMMODORE 1081: 1084: PHILIPS 8833: 8854:
ALL OTHER TYPES TO ORDER

Our high quality filters are made from optical quality 3mm Acrylic specially tinted. It's unique filtering qualities have been extensively tested and approved by Amiga user groups, doctors and government offices.



\$39.95

inc P & P

Made in Australia 10 year guarantee

- TOTALLY ELIMINATES MONITOR GLARE.
- RESOLVES LONG EXPOSURE ADVERSE EFFECTS.
- PROTECTS FROM R.S.I. EYE STRAIN.
- ENHANCES ON SCREEN COLOURS.
- INCREASES IMAGE SHARPNESS.
- MAKES INTERLACE MODE VIABLE.

HARRIS HI-TEK PTY. LTD.

P.O. Box 112 Erina N.S.W. 2250

Tel: 02 671-1856 or Fax: 043 85-2051

MONITOR TYPE

PAYMENT: PLEASE INDICATE METHOD ☒ PLEASE DEBIT MY CREDIT CARD
VISA - MASTERCARD - BANKCARD

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

<input type="checkbox"/>	CHEQUE - P.O.	EXPIRY DATE	<input type="text"/>	<input type="text"/>
--------------------------	---------------	-------------	----------------------	----------------------

MR/MS/MRS SURNAME INITIALS SIGNATURE

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
----------------------	----------------------	----------------------	----------------------

ADDRESS

POST CODE

★ APPLY ★

Commodore Annual 1990

All about the C64 and C128

Produced by the editorial staff of
Australian Commodore and Amiga Review

Complete list of software available in Australia
with description, price, etc

Product reviews ★ User Group List

★ Bulletin Boards

Geos ★ Education ★ Graphics ★

Communications

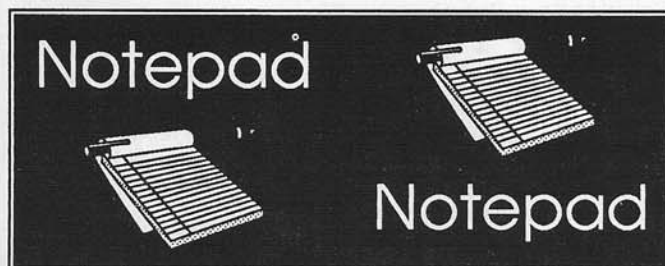
And lots more !

**On sale at newsagents and
computer dealers \$6.95**

DON'T MISS IT!

Or by MAIL ORDER from
Gareth Powell Publishing, 21 Darley Road,
Randwick 2031.
Telephone: (02) 398 5111

★ NOW ★



Amiga Vision

● As the hypermedia market continues to expand, Commodore have also got in on the act with their own authoring system, *Amiga Vision*, which features a very smart user interface. The product enables icon to be arranged on a grid system to represent the various effects and graphics or sound to be displayed. It all looks very impressive, and comes with a very solid manual. We plan to do a full comparison of multi-media products in our new magazine soon. (What new magazine? ... read the editorial.)

The Advantage arrives

● Although much faster than any previous Amiga spreadsheet, *The Advantage* is not quite everything we had hoped for. Probably the most impressive feature is the ability to export graphics such as bar charts and histograms as *Professional Draw* clip-art. This makes the Amiga a powerful report generator when combined with *Professional Page*. Other amazing features include an AREXX script launch facility when you double click on a cell. Alternatively, a cell may contain a link to a *Transcript* document. No distributor announced as yet - some stores do have copies for around \$200.

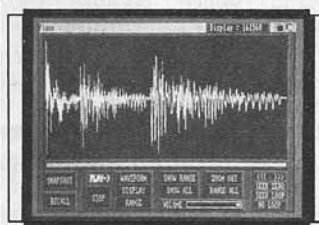
Amiga 3000 launch imminent

● The powerful A3000 will have rolled onto the production lines as our May issue hit the streets. With sleeker styling, more expansion, and a

number of functional improvements, not to mention a massive jump in speed, the A3000 should prove to be tough competition for the new 68030 based Mac which is more than twice the price.

Professional Page 1.31 bugs!

● The latest version of *Professional Page* appears to have slipped down a rung in the stability department. After extensive testing, we can report a number of unexpected system failures. Gold Disk are looking into these problems immediately. It is disappointing to see a once reliable product become unpredictably crashable. Let's hope they fix it fast.



Audiomaster II

New Audiomaster not far off

● Talented Australian software designer, Peter Norman, has rewritten *Audiomaster* and is calling the new version *Audio Engineer* and *Audio Engineer Professional*. The serious version will include hardware for around \$400 and is promised to sample in 16bits at 56Khz! Impressive stuff - we wait with baited ears to experience the results. More innovation from downunder! Available from Computer-mate (02) 457 8388.

New Excellence! 1.3

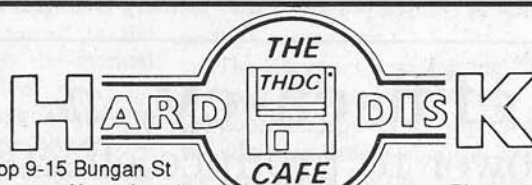
● A new version of *Excellence!* is expected real soon now. According to rumours, it is expected to be considerably faster. We managed a sneak preview and found that the speed was better, but more noticeable were the additions to the manual which help explain away a lot of the problems people have experienced with printers. Adobe fonts can now be used, so long as you set your pitch and spacing correctly. There didn't appear to be many new features - perhaps most of the hard work has taken place behind the scenes eradicating old bugs. *Excellence!* is acceptably fast when used with a faster processor such as the 68020, however standard A500s tend to run a little slow!

Family tree software

● *GENP*, a powerful genealogical package for the Amiga, is available. Multitasking with other Amiga programs, the software provides a swag of features including:- Standard Descendent, Pedigree, Family Sheets, Multiple Databases, Pictures, HotKeys, Multiple Users, Data Dictionary and a 120 page manual. The program is available direct from GENP for \$150 plus P&P. For information call (03) 584 2765 or write to GENP, 37 Charles St, Cheltenham, Victoria 3192.

Glare problems partially solved

● We've been testing the new Hi-Tek specially tinted acrylic screen filters for a couple of months now. Doing



Shop 9-15 Bungan St
(entrance Akuna Lane)
Mona Vale NSW 2103

Phone: 99 4441
A.H. 411 2081

AMIGA 500 - AMIGA 2000 COMMODORE COLT - PC 10 SOFTWARE - HARDWARE COMPUTER ACCESSORIES

AMIGA VIDEO TUTORIAL FOR BEGINNERS
FEEL AT HOME WITH YOUR NEW AMIGA

COST \$29.95

HINTS & TIPS

LEARN HOW TO BACK-UP

COPY - FORMAT DISKS - SAVE - LOAD

MAIL ORDER FORM

BANKCARD/MASTERCARD/CHEQUE/POSTALORDER

NAME:

ADDRESS:

PHONE:PC:

PAY BY CHEQUE: B/C: M/C:

P/ORDER:

CARD NO:

EXPIRY DATE:

SIGNATURE: DATE:

a good deal of wordprocessing and DTP a screen filter comes in mighty handy. The Hi-Tek model has been improved to actually sit inside the screen area rather than rest over the top of the monitor. Glare is significantly reduced and colours appear sharper and more consistent. With the right adjustment, interlace mode becomes a very usable option. The filter carries a ten year guarantee. RRP is \$49.95, any enquiries ring (02) 671 1856. Filter screen type 2 fits Commodore 1701 - 1802, PC 1081, Phillips 8833 - 8854. Filter screen Type 3 fits Commodore 1064S - 1084SO - 1901 - 1802 - 1804 - 1701. Thompson 2002.

Laser displays

● LaseRage, a Perth based company, have used their own package, *Firefly*, to produce sensational laser lightshow displays via a Commodore

Amiga. The system has been described as the most significant laser control system yet seen in Australia.

The software meets the high standards of professional operators, but is simple enough even for the first time user.

Written especially for the Amiga, *FireFly* is actually a suite of four modules which enable laser images to be prepared, edited and assembled ready for display via GS galvanometer scanners. A full complement of special effects display features is provided, along with the ability to create and edit images of up to 5000 points.

The software was hand-written in Amiga machine code and takes full advantage of the Amiga DMA (direct memory access) custom chip set. A standard Amiga with 1MB memory is all that is re-

quired - and a friend with the galvanometer.

Using *FireFly*, laser-scanned images, logos, text messages, animation and icons can be projected onto walls, flags, screens and even the night sky. This has a huge number of applications in the advertising, motion picture, conference, promotion and video industries, along with its uses in pure entertainment.

For example, all laser graphics seen at the 1989 World Ski Championships at Thredbo, NSW, were produced and displayed using *FireFly* and the Amiga. Isn't it great to see an Australian product with such fabulous export potential.

Police Academy downunder

● The Queensland Police Force has discovered the value of the Commodore Amiga as a cost effective method of producing professional quality video. Until recently, video productions were out of reach of the budget of the Queensland Police because they relied on the use of professional outside facilities, such as those used by TV and film

production companies, TV stations, and so on. Needless to say, these facilities do not come cheap.

Now, the force is producing a monthly video magazine, including training material from Cadet to Tactical Response Groups, as well as public relations support material for the entire Queensland Police Department.

Their complete hardware setup includes an Amiga 2000, three megabytes of RAM, a 40 megabyte hard disk, Genlock and software such as *Pro Video Plus* (allowing full character generation of up to 2600 pages of text and 92 different page transitions), *Deluxe Paint III*, *Video Scape 3D* (a complex three dimensional animation program), along with word processing, budgeting and accounting software.

The addition of the Amiga 2000's unique "Bridgeboard" allowed compatibility with IBM PC standard equipment, including editing equipment. Now all the Edit Decision Lists (EDL's) which are the critical connection between rough tape and a finished production, can be printed and stored for future use. □

ef'fi-cà-cy, n. power to produce effects or intended results.

Not everyone needs the ability to typeset complex mathematical equations or complicated tables. Many can do without the accents and special characters required for foreign languages. People even exist who don't want a powerful macro facility in their document production system. Ligatures and kerns are overkill for some documents. But your documents are more than just simple letters.

Some people shun included IFF/ILBM images or ARexx compatibility. A few are willing to hyphenate by hand, or accept poorly spaced lines. And some people will accept the jaggies—output at less than the full resolution of their printer.

But the quality of your documents is important to you, and your typesetting needs are more than the average person's. You are trying to create high quality books, technical reports and other documents. You need

AmigaTeX

If you are fair dinkum about putting words on paper, write for your free demo disk. Move up to the power of AmigaTeX. What else will provide the power, the beauty, and the speed you want?

Baldon Pty Ltd

17 Wilkinson St • FLYNN ACT 2615 • (06)2591226

AMIGA PRODUCTS

Hard disk drives ready to use from \$890.

External Slimline disk drives, with switch \$200.

Memory Boards in stock from \$199.

Starcursor joysticks \$54.00.

All Pacronics and ECP products available. New Abacus Amiga manuals in stock.

Quality Computer and printer accessories.

Latest Amiga Magazines, Australian Commodore and Amiga Review, other overseas publications and software available.

Bi-monthly Amiga workshops. Next meeting on Sunday the 3rd June, 1990. Ring for details.

New Star FR10 colour printer in stock.

WHITE'S COMPUTERS

"Service is our motto"

(02) 634 6636

37 Daphne Ave. Castle Hill 2154.
Bankcard/Mastercard/Visa Welcome



LETTERS

TO THE EDITOR

The ultimate C64 utility

● I wonder if any machine language experts can write what must be the ultimate C64 memory management utility to liberate the 16K hidden RAM.

Every such memory management utility I've seen in magazines has had limitations that make them unusable in Basic programs.

For instance the only access offered to the hidden memory is through poke/peek, which operates at such a snail's pace that you may as well just store and read the data from disk. Poke/peek is quite inappropriate for something the size of a character set, let alone a high-res screen.

Most RAM disk utilities aren't accessible from Basic program mode. Also they often allow the storage of only one set of data (or one program) at a time.

The utility would need to do the following:

a) Open up the maximum possible "hidden" RAM for the storage of ML data, screens, character data etc - as near as possible to the full 16K available.

b) contain a **block move** routine (like that normally available at Dec. 41964). This needs to be accessible from program mode.

c) The actual code for the utility should go somewhere like the tape buffer so that Dec. 49152+ is free for further expansion of normal memory. Ideally it would be relocatable.

d) The initial input of data could be read by Basic from disk to a section of normal memory and then block moved to hidden RAM.

Daniel Henderson
Manly, NSW

Ed: Try the Final Cartridge III! We'll let our machine code experts know of your requirements.

Praises - and which printer driver

● I own an Amiga 500 (1 monitor, 1 printer, 1 meg, 2 drives) and I just recently started to collect your wonderful magazine. Your magazine is interesting and informative. I think it is great that I don't have to buy some out of date overseas magazine any more.

Your article on assembly language is "tops", it has helped me to understand more about the language. So please keep on printing more articles about this.

As for your entertainment section, could you please be a bit more critical on some games because not every game is perfect. And I beg you to use a points system for each game - such as the usual graphics, sound, playability and value scores.

Could I also ask you what kind of printer driver I should use for my Commodore MPS 2020. Some drivers are too slow or print useless characters at the start of documents or pictures. Any information about a good driver for my printer would be greatly appreciated.

You have a great magazine (I know - I have collected hundreds of others). So keep up the good work. I enjoy your articles, except the ones including the 64 and the 128 machines. I would just like to say one thing to C64 owners, I used to own one, and the Amiga is much better so buy one!

A DeWitts
Wagga NSW

Ed: We have to have one letter like yours every month - thank you. Try an Oki 292 or even 192 printer driver. Make sure you have Workbench 1.3 too - the drivers are considerably faster.

Pirates and copy cartridges

● G'day dudes! How's it going?

Having an addiction to magazines for the Commodore C64 isn't all it's couped up to be! But of all the magazines I've ever bought and read, this magazine is the best.

I'm very interested in the editorial by Andrew Farrell in December 1989, when he mentioned about the Nasty PIRATE PROBLEM. I'm %50 with this! I'm totally against the pirating of games. Just because I'm not with it, doesn't mean I haven't copied one or two games. I only copy games between friends and family, and not at an amazing pace! One thing I find ironic is companies producing very powerful cartridges with screen editors and back-up features, and placing an almost microscopic warning! An example of this is the Expert Cartridge advertisement in the same issue. If you look-13 words! Do you, or they, honestly think that any Power Crazy Hack Mad Pirate is going to even consider that? I have a friend who is buying version 6 of the Action Replay cartridge, because he LIKES to copy, mess, and destroy everything within 30 feet of his computer with it. He is already considering *Nemesis* with infinite lives, and *Wizball* along with *R-Type* as well.

Simon Mitchell
Cabarite, Vic

Ed: Pirates will be pirates - but those cartridges help a lot of non-pirates make legitimate backup copies!

Thoughts from a new Amiga owner

● Congratulations on the evolution of a fine magazine, and the devolution of the sunnies!

I purchased my first Commodore when the C64 dropped in price from \$699 to \$499. Since then, I have owned the SX-64 and currently a 128D. I use the 128D with *Geos* 128 software. My Commodore

peripherals include an MPS 1250 printer, (my first printer being the MPS803), a 1351 mouse, a 1750 (512K) RAM expansion and a 1901 monitor. I have found this system okay for use in my small business.

Now, I have just purchased an Amiga 500, a machine I find much more complicated (although the games and music are great).

The Amiga Starter Pack arrived without the modulator but a quick phone call had that straightened out. The three games that come with it are *Eddie Eagle's Super Ski*, *Miniature Golf* and *Crazy Cars* and they are all ordinary. This letter is being written with *Kindwords*. I'm a slow two-fingered typist, but *Kindwords* is slow to the point of being tedious. I also have some reservations about the spell checker, having found some errors after checking. Print quality, however, is excellent. The final program, *Fusionpaint*, is one I haven't looked at in any detail, so I won't make a judgement. All in all, however, this Starter Pack is only fair value, particularly compared to some of the packs offered OS.

In your January edition, Eric Holroyd reviewed *Pen Pal* - a word processor with a database, what a fantastic idea! Eric admitted that the DB "is just a glorified list manager" but unfortunately did not look at the status screen of the database "listings" a tutorial supplied with the program. The status shows relevant storage information. He would have seen that this small database was only capable of holding around 380 entries. I tried a basic database of approximately 20 fields and it would hold just 200 entries. Now I would call this a very real shortcoming, particularly when you consider the way this program is marketed. A phone call to Pactronics ensured that the program was set up to its suggested specifications, but I was advised that as it is memory resident and not disk based I would require more Ram! In other words it is possible to fit many small DBs on disk but only the one in memory. Sorry, I can't afford more than 1 meg . . . yet. In comparison my similar *geoFile* holds the application and over 1000 records with 50k spare on a 330K

5.25 1571 drive. As a novice, I stand to be corrected on this point, however, if I am wrong then more detail in the manual please. Probably the most disappointing aspect of *Pen Pal* is the print quality. The print quality is not as good or as simple to use as *Geos* or *Kindwords*.

On a sour note, I purchased my Commodore MPS 1250 printer, before ACAR's review. Shortly after getting the 1250 home, I dropped the tractor and broke off three of the four lightweight plastic clips that connect the tractor to the printer. I went back to my dealer and asked them to order the new tractor. It came as quite a jolt when Commodore quoted a price of \$250! - wholesale!! Needless to say I'll continue using Tarzan's Grip and will not purchase any more Commodore peripherals if this is an indication of their spare parts pricing policy. Fair go, Commodore, are you saying that the printer itself is worth only \$150, even less if you consider retail markup? The MPS 803? Worth \$250 on the trade.

By the way, Andrew, I purchased your alternative workbench and virus pack, I'm most impressed. Prime Artifax had them to me overnight. Interlink mail order has been quick and efficient too.

I'd like to say hello to Tracy and Trevor in New Zealand, Lawson in New Zealand, and Bill in Melbourne who are all happy with their Amigas too!

David J.R. Dixon
Malvern, Vic 3144

Ed: Yes, in some respects the Amiga is more complex - fortunately this is matched by an increase in power to a far greater degree. May I suggest Superbase Personal II or Microfiche Filer for your "true" database needs.

Easy articles please ... What about Mac drives?

● As a subscriber, I continue to enjoy ACR. I am pleased you have started columns on educational software and the public domain. Keep it up. Any possibility of a "Learn to use and understand the Amiga" column? I have a fair understanding of electronics and have learnt a bit about PCs but still get lost with a lot written about the

Amiga. It seems to be really basic or the other way around and assume knowledge I don't have. Is it a problem that computer (or Amiga) experts have that they cannot step by step clearly explain how one concept develops from another?

Do you have any info of how a Mac Drive can be wired to work directly from the Amiga? (The Amigatosh drive). Can it be done? I could then use a Mac drive as my second or third drive for Amiga use when I need two or three drives by formatting that material from the Amiga to Mac or vice versa.

Keep up the good work with your magazine.

Mark Riley
West Calder, TAS

Ed: A Mac Drive can be connected using MAC-2-DOS, which includes an interface. In this way, the Mac drive can only be used with the MAC-2-DOS software.

However, an Amigatosh drive is expected here pretty soon and will operate as you describe.

Corish's Computer Games Guide

● I am writing to you regarding "Corish's Computer Games Guide". The advertisement in the January *Australian Commodore and Amiga Review* states that it's available from Myers, John Martins and Harris Scarfes. We tried these stores but it was not available. We tried Computer Man in Adelaide, SA, it's available there but we had a shock to find out that they are selling the book for \$49.95 when at Standard Books it's available for \$29.95 recommended price. Why is it that Computer Man can sell the book for \$28.88 above the recommended price - it seems to me that they are ripping off the working person who enjoys his computer and works hard to save up for the expensive games. I hope you print this in your magazine.

Tom Hoppo
Adelaide SA

NOTE: Letters to the Editor should be addressed to 21 Darley Rd Randwick NSW 2031 and not to the Entertainment section Editor. □

The Best Keeps Getting Better UNBEATABLE VALUE!

SCSI Hard Disk Controller and 8MB FAST RAM Expansion In a Single A2000 Slot

The NEW IMPACT™ A2000 SCSI + 8 CONTROLLER gives you more for less. Compare:

PRICE Why buy a dedicated memory expansion board or a dedicated SCSI Controller when you can install the IMPACT SCSI + 8 as a RAM Board or SCSI Controller All-in-One for less! Save even more when bundled with a GVP Hard Disk Drive.

EFFICIENCY Now you can have the GVP HIGH PERFORMANCE BOOST™ SCSI Controller and 8MB of FAST RAM Expansion in a single A2000 slot saving you a valuable A2000 slot. Ease of installation is regarded as top in industry.

PERFORMANCE Now with the NEW GVP BOOST, experience the HIGH PERFORMANCE GVP SCSI Controller with full Overscan support, FAST AUTOBOOTING directly off a hard disk FAST FILE SYSTEM partition. Proven track record with over 10,000 GVP hard disk controllers installed!

QUALITY Backed by GVP's unique full one year guaranteed warranty.

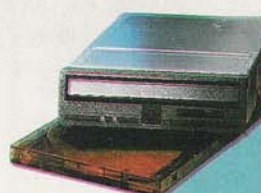


High Performance Hard Disk Drive SCSI Controller

8MB Memory Expansion

IMPACT SCSI + 8 Technical Highlights:

- High performance Autobooting SCSI controller supports up to seven SCSI devices.
- Internal and external SCSI connectors. 50 PIN SCSI Cable and well known easy-to-use GVP installation software comes standard.
- DMA to/from drive to onboard 16K SRAM buffer provides high performance not affected by overscan or blitter DMA.
- Now FASTER Data Transfers with GVP BOOST Advanced Driver Software Kit installed.



IMPACT SQ 44*
44MB Removable Hard Drive. Autobooting/Auto Disk-Change Features Free.

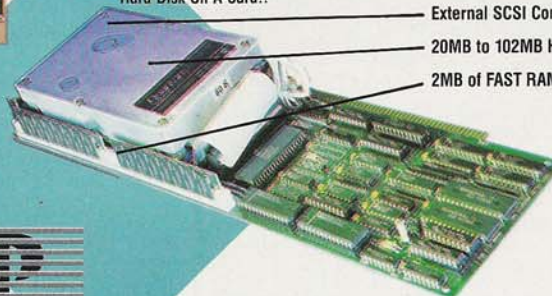


IMPACT XC
GVP IMPACT XC is designed to take one full-height or 2 half-height 5.25" hard or floppy disk drives. Internal 45 watt switching power supply.



IMPACT WT 150*
150 MB Streaming Tape Backup. TAPESTORE™ software makes backups simple, fast, interesting and exciting. TapeStore is included with all IMPACT WT 150 orders Free.

IMPACT-HARD-DISK-CARD + 2
Now we have added 2MB of Zero-Waitstate FAST RAM Expansion to our best-selling Hard-Disk-On-A-Card!!



External SCSI Connector
20MB to 102MB Hard Disk Drive
2MB of FAST RAM Expansion

*GVP SCSI host adapter required

Distributed in Australia by

Power Peripherals Pty. Ltd. Expansion Solutions
P.O. BOX 555, LAVERTON, MELBOURNE, VIC 3028 AUSTRALIA
PHONE: (03) 369 7020 FAX: (03) 369 7020

Making music for beginners with your C64/128

by Timothy Lockwood

THE C-64 COMPUTER has one of the most sophisticated music synthesizers available on any home computer under \$500. The Sound Interface Device, or SID chip as it is more commonly known, controls the music we hear coming out of our monitors. The SID chip has five main features; let's take a look at these.

Volume control

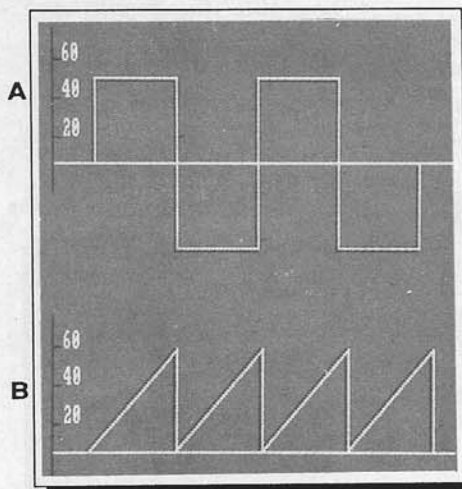
● The C-64 has 16 volume levels, ranging from 0 (off) to 15 (maximum volume). Let's say that we want the volume to be twelve. To set the volume level, all you have to do is poke 54296,12. If you want the volume level to be six you would poke 54296,6 and so forth. The volume you select will be the same for all three voices. NOTE: The complete settings for the SID chip are shown in the chart at the end of this tutorial.

Voices

● The C-64 has three voices. These may be played separately or simultaneously. The settings for the Voices are shown on the chart at the end of this tutorial.

Frequency

● As you probably already know, sound is created by the movement of air.



A = Square wave
B = Saw tooth wave

Think of dropping a ball into a swimming pool and then seeing the tiny waves radiating out. When similar waves are created in the air, we hear a sound. Every sound we hear come out of the C-64 is made up of two frequencies. Each of the Commodore 64's voices has two registers where the frequencies are stored.

The two frequencies in each voice combine to form the right frequency value. To play a musical note or a sound, you must first poke the sound's high frequency value into its memory location, and then do the same to the low frequency. At the end of this tutorial there is a chart which will show you the respective memory locations.

Waveforms

● The type of waveform that you choose determines the quality of the sound produced. There are four types of waveforms. Let's just have a quick look at each one!

Triangular: This waveform contains a few harmonics and a mellow flute sound.

Sawtooth: This particular waveform contains all the harmonics. It has a bright, brassy quality.

Pulse: This, the third of the waveforms, contains variable rectangular waves. Changing the Width of the pulse makes sounds ranging from a bright, hollow noise to a nasal, reedy pulse.

White Noise: This waveform is used mainly for sound effects. It ranges from a low rumbling to hissing.

The settings for the waveforms, and all other SID registers, are situated in the chart at the end of this tutorial. You will find this chart in your user manual.

Envelope generator

● The volume of a musical note changes from the time you first hear it until it eventually stops. When the note is first activated it rises from zero volume to its peak volume. The rate at which this occurs is known as the ATTACK. Then it falls from its peak volume to a mid-range volume. The rate at which this process

happens is called the DECAY. The mid-range volume is what is known as the SUSTAIN level.

When the note stops playing, it falls from the sustain level to the zero volume. The rate at which this occurs is called the RELEASE. To create the ADSR (Attack, Decay, Sustain, and Release) you must add an ATTACK level and a DECAY level together and then poke that number into the appropriate memory position, which is shown on the chart at the end of this tutorial. Do the same with the SUSTAIN and RELEASE and then you will have your ADSR.

Creating a song

● Now that we have seen what the SID chip does, let's have a go at putting it into practice.

Firstly we must clear the SID chip, we do this by using the line below.

```
5 FOR L=54272 TO 54296:POKE L,0:NEXT
```

The next step is to set the volume, that is done like this.

```
10 POKE 54296,15
```

Now it is time to set the ADSR, which you know stands for Attack, Decay, Sustain, and release. The ADSR in the line below gives you a flute-like sound.

```
20 POKE 54277,96:POKE 54278,0
```

NOTE: The first part of the line above gives you your Attack and Decay rate, the second part is for the Sustain and Release.

The line below reads the first piece of information from the data later in the program.

```
30 READ A
```

This line looks to see if the next piece of data is -1, if it is the program ends.

```
40 IF A=-1 THEN END
```

Now we must read the second piece of information in the data, this is done in the line below. NOTE: Each note consists of two bits of information because to produce a sound on your C-64 you need to program two frequencies.

```
50 read B
```

This next line sets up the information to play the two frequencies which we have read from the data in lines 30 and

50. These two frequencies create a single note.

60 POKE 54273,A:POKE

To actually start the note, we activate the desired waveform. The line below activates the waveform called TRIANGLE.
70 POKE 54276,17

Now, we let the note play via the first part of the line below, and then stop it by changing the waveform to a register that does not control any existing waveform. This occurs in the second part of the line.
80 FOR T=1 TO 300:NEXT:POKE 54276,16

The next line, shown below, sets the amount of time that occurs between each note played.

90 FOR T=1 to 50:NEXT

The line below repeats the process until the computer is given the signal to stop. This signal in this program, is situated in line 120 in conjunction with line 40.

100 goto 20

Now we finally get to the lines which carry the data for the musical notes.

110 DATA 33,135,37,162,42,62,44,193,50,60,56,99,63,75

NOTE: Each set of two data values gives you the correct frequency values to create a single musical note.

The last line ends the program. (See line 40).

Try typing out this program on your computer. The listing is shown below.

5 FOR L=54272 TO 54296:POKE

L,0:NEXT

10 POKE 54296,15

20 POKE 54277,96:POKE 54278,0

30 READ A

40 IF A=-1 THEN END

50 READ B

60 POKE 54273,A:POKE 54272,B

70 POKE 54276,17

80 FOR T=1 TO 300:NEXT:POKE 54276,16

90 FOR T=1 TO 100:NEXT

100 GOTO 20

110 DATA 33,135,37,162,42,62,44,193,

50,60,56,99,63,75

120 DATA -1

Changing instruments

● How are different sounds made on the computer? The answer is that the type of sound that comes out of your monitor or television depends on the ADSR. Different ADSR rates create different sounds. I have included a small table below of some of the different instrumental sounds you can use. You will find a

bigger table on page 171 of your C-64 manual.

Instrument	waveform	AD	SR
Flute	Triangle	96	0
Trumpet	Sawtooth	96	0
Organ	Triangle	0	240
Xylophone	Triangle	9	0
Banjo	Sawtooth	3	0

Sound effects

● The C-64 can create a wide selection of sound effects for use in games or other programs, even just for fun.

Here are a couple of guidelines you can use when creating your own sound effects.

● Use two or three voices, with each

one independantly controlled you should be able to come up with some really weird effects.

● Try using different pulse widths to create different types of sounds.

● Use the WHITE NOISE waveform for the types of effects you hear in computer games, such as explosions, engines, and sirens.

Conclusion

● I hope that this tutorial has helped you to understand making music on your home computer. When the musical powers of the C-64 are harnessed, they can show just what a amazing computer the C-64 really is. □

SETTING VOLUME - same for all 3 voices												
Volume control	Poke 54296	Setting range from 0-15										
VOICE NUMBER 1												
TO CONTROL THIS SETTING	POKE THIS NUMBER	FOLLOWED BY ONE OF THESE NUMBERS										
To play a note		C	C#	D	D#	E	F	F#	G	G#	A	A# B
High frequency	54273	33	35	37	39	42	44	47	50	53	56	69 63
Low frequency	54272	135	134	162	223	62	193	107	60	57	99	190 75
Waveform	54276	T 17	S 33	P 65	N 129							
Hi pulse rate	54275	0 to 15										
Lo pulse rate	54274	0 to 255										
Attack / Decay	54277	A 4 128	A 3 64	A 2 32	A 1 16	D 4 8	D 3 4	D 2 2	D 1 1			
Sustain / Release	54278	S 4 128	S 3 64	S 2 32	S 1 16	R 4 8	R 3 4	R 2 2	R 1 1			
VOICE NUMBER 2												
To Play a note		C	C#	D	D#	E	F	F#	G	G#	A	A# B
High Frequency	54280	33	35	37	39	42	44	47	50	53	56	59 63
Low frequency	54279	135	134	162	223	62	193	107	60	57	99	190 75
Waveform	54283	T 17	S 33	P 65	N 129							
Hi pulse rate	54282	0 to 15										
Lo pulse rate	54281	0 to 255										
Attack / Decay	54284	A 4 128	A 3 64	A 2 32	A 1 16	D 4 8	D 3 4	D 2 2	D 1 1			
Sustain / Release	54285	S 4 128	S 3 64	S 2 32	S 1 16	R 4 8	R 3 4	R 2 2	R 1 1			
VOICE NUMBER 3												
To Play a note		C	C#	D	D#	E	F	F#	G	G#	A	A# B
High Frequency	54287	33	35	37	39	42	44	47	50	53	56	59 63
Low frequency	54286	135	134	162	223	62	193	107	60	57	99	190 75
Waveform	54290	T 17	S 33	P 65	N 129							
Hi pulse rate	54289	0 to 15										
Lo pulse rate	54288	0 to 255										
Attack / Decay	54291	A 4 128	A 3 64	A 2 32	A 1 16	D 4 8	D 3 4	D 2 2	D 1 1			
Sustain / Release	54292	S 4 128	S 3 64	S 2 32	S 1 16	R 4 8	R 3 4	R 2 2	R 1 1			
T = Triangle S = Sawtooth P = Pulse N = Noise												

Amiga Music Now

Something of a renaissance has been occurring over the last year for music on the Amiga. Phil Rigger brings us up to date.

ONCE THERE WERE only a handful of programs that could be considered professional music applications, but now there are a number of developers who have decided that the Amiga is definitely worth considering as a music computer. Passport have just released *Master Tracks Pro* for the Amiga which is a 64 track sequencer with extensive editing facilities, and Steinberg Research from Germany have just released the *Pro 24* sequencer in England and Europe, although we're yet to see it here.

I was in Germany in 1986 and spent three days at Steinberg looking at the new software packages they were producing for the Commodore 64, as well as acquiring a copy of *Pro 24* which was written for the Atari ST range. At the time *Pro 24* was considered one of the premium music software packages available. I had long and interesting conversa-

tions with both Carl Steinberg and his business partner, Manfred Rurup.

This was the year that the Amiga was being introduced to Australia, so I asked them whether Steinberg Research would be releasing a version for the Amiga. Manfred told me that as there were 50,000 ST's in Germany at the time, this had to be their first consideration. Carl Steinberg in fact told me he considered the Amiga to be a technically superior machine, and was looking forward to writing a system for it.

Well, of course it is now almost four years since that conversation took place, and we are finally seeing Steinberg systems for the Amiga. Let's hope that Venue Music, who distribute Steinberg in Australia, get *Pro 24* to Australia as soon as possible. There are rumours persisting that we will also see an Amiga version of *Cubase*, the latest offering from Steinberg, and *Creator/Notator* from C-Lab, but we will have to wait and see.

Of course there have been a number of companies who have written music packages specifically for the Amiga. Perhaps the most potent are *Music-X* from MicroIllusions and *Bars and Pipes* from The Blue Ribbon Bakery. Both of these systems are extremely powerful sequencers, with each offering different approaches to editing and composition. They compare more than favourably with any system available for Atari, Mac or IBM, so a general run down on each should give you an indication of the power and flexibility available.

Music-X

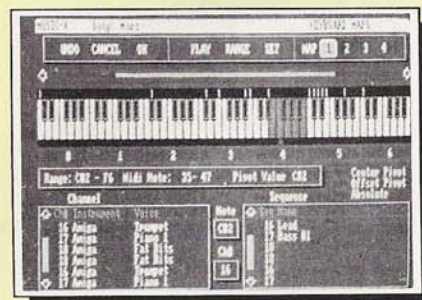
● *Music-X* is an unlimited track sequencer. That is, you create a new track when you require it as opposed to having a set number of tracks with which to work. In the manual the tracks are in fact described as 'sequences' not tracks, be-

cause *Music-X* uses the 'endless piece of tape' concept. I prefer to refer to them as 'sequence/tracks' myself. Each sequence/track can contain Midi information for all 16 channels, so it can be considered a sequence, but of course it is possible to play up to 20 sequence/tracks simultaneously.

It is interesting to note that C-Lab music software for the Atari, which is a 64 track system, was promoted as having the ability to play four different sequences simultaneously. *Music-X* allows up to 20 to be played!

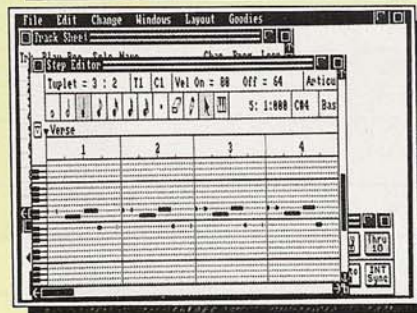
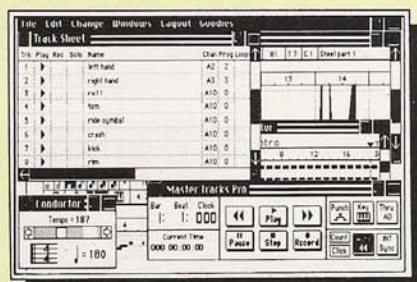
Without a doubt, *Music-X* is one of the steadiest pieces of software available for the Amiga. In over six months of use, it has not crashed once. Amazing when you consider that music software is very much at the mercy of external devices - synths, midi clock from other devices, SMPTE etc. Top marks for reliability.

The main screen consists of a list of sequence/tracks and a set of tape like transport controls with four auto locate buttons and bar, beat clock and realtime displays. To edit, you simply choose the track and click on Edit. There are two editing pages - alpha numeric and piano scroll. The piano scroll edit page is an excellent implementation, with all Midi channel information displayed with each channel having its own colour.



Music X

In a situation where you do have more than one Midi channel displayed, and need to edit only a single channel, you can easily lock all of the other channels out of the display, edit the track and then unlock the other channels. All editing carried out, whether it be by using the mouse, played in from the keyboard or using the Cut and Paste method, will only relate to the Midi channel you have



Master Tracks Pro

TURBOLOAD

CARTRIDGE FOR COMMODORE 64

**LOADS
DISKS
FASTER**



- Easy to instal cartridge, simply plugs into your Commodore 64 or 128.
- Loads disks up to 6 times normal speed with both the 1541 and 1571 disk drives.
- Simplified DOS commands for loading files, formatting disks, deleting files etc.
- Stoppable directory listing which does not overwrite programs in memory.
- Built in menu maker to provide a menu for each disk to simplify loading and running of programs.
- Easy listing of BASIC programs to printer.
- Text screen dump to printer.
- Reset button — ideal for magazine pokes.
- One year warranty.

PROUDLY MADE IN AUSTRALIA
AND DISTRIBUTED BY —

**HOME ENTERTAINMENT
SUPPLIERS**

UNIT 1/128 BONDS RD, RIVERWOOD N.S.W. 2210

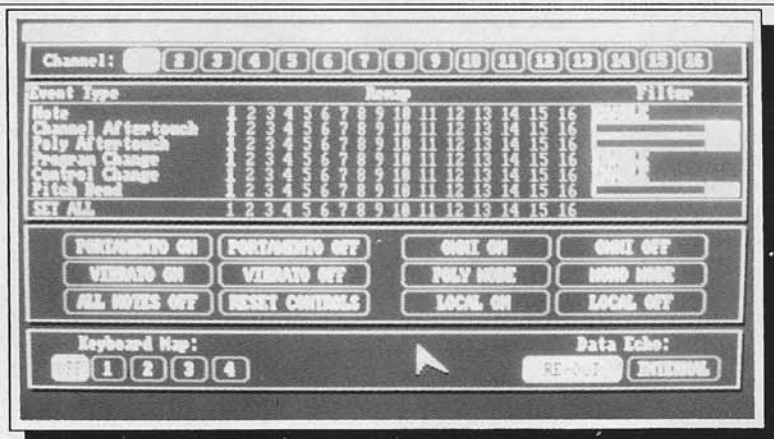


PTY LTD

PH: (02) 533 3679



AUSTRALIAN MADE



Music X

left displayed. All other information is untouched.

There are an assortment of ways to edit midi information, including unquantizing by %, tempo and velocity scaling and conversion of written events into any other event type. Overall, an excellent means by which to edit your music.

Music-X also has a filters page which allows you to filter Midi information. Most sequencers of course have the same, except that while on this page you can open the Keymaps window. The Keymaps window allows you to define the way your mother keyboard reacts with the program. You can use a mother keyboard with no split capabilities and have the Keymaps page split it to transmit on four different Midi channels.

It also allows you to designate notes on your keyboard to take on new roles such as starting or stopping the sequencer, soloing, muting or even changing the keymap itself. These 'Music-X Commands' can also be written into your composition so that you may play along but have control dictated by commands in the sequence. As well, a control sequence can be setup to start, stop or off-set the other sequence/tracks.

The sample page lets you load up to sixteen Amiga samples, which you can use as well as external synths etc with each sample having its own envelope. Any IFF sample can be loaded. While this may not be seen as a professional prerequisite, it does allow all facets of the machine's musical ability to be harnessed.

The Librarian page at first appears to be somewhat standard fare. You can load and save banks of sounds from just about any synth, with the ability to write your own system exclusive commands. But then after loading a bank of D50 sounds, you select one and hit E on your Amiga keyboard. A complete D50 Editor appears. You don't have to shut down the sequencer and load a separate editor - it exists as a module of *Music-X*. Presently it has editors for the Roland D50, Yamaha DX7 and DX100, and Casio CZ1000 or CZ101. There are other editors planned and they will be available as updates. This makes it a very complete sequencing package as well as being very cost effective.

There is a notation module apparently under development as well as a SMPTE reader/generator which are both

good news. Of course *Music-X* reads Midi Time Code, and Midi clock, and adheres to all SMPTE frame standards - 24, 25, 30 and 30 drop frame. Once again, a very complete sequencer package which will only get better.

Bars & Pipes

● *Bars and Pipes* from Blue Ribbon Bakery is the latest sequencer to be released for the Amiga. It gets its name from the analogy that it is like the plumbing in a house. Like *Music-X*, *Bars and Pipes* is an unlimited track sequencer. Again, you add tracks at will and have the option of displaying the screen in low res or interlace mode, the latter allowing 32 tracks to be shown on the main screen. More tracks can exist, and you view them by use of the scroll gadget.

On each side of the track display you have an area which resembles a bar. There is also a Toolbox from which you can select 'tools'. These tools can affect the tracks in many different ways. You have the option of placing them on the bar before or after the track, effectively recording the changes if they are placed before, or not if they are placed after.

You can route information between tracks using the Downpipe, Uppipe and Feedback tools. Some other tool examples are:- Quantize, Unquantize, Harmony Generator, Arpeggiator, Counter Melody, Keyboard Splitter, Randomizer, Chord Inverter, Sforzando, Doctor of Velocity, Delay and Echo.

There are many others as well as the ability to create Macro Tools by combining a number of different tools together. This allows an almost endless chain of possibilities such as the creation of counter melodies, all manner of harmony generation, note filtering, dynamics and modal quantizing.

Among forthcoming tools are definable controller sliders which can be recorded in real time and an Amiga sound tool which allows the use of internal Amiga sounds. There are also rhythm templates which you can overlay on tracks, and having created a track, you can save the rhythmic element to disk to be loaded up and overlaid on something else again at a later stage. Got a favourite complex rhythm?

You edit the tracks by double clicking on them which opens an edit window. You can have more than one edit window open at a time and can insert and delete on the fly. Controller information for pitch bend, poly and mono aftertouch can be drawn by mouse and you can also place dynamic markings, program chang-



Music X

es, controller, lyrics, chords, rhythm templates, time and key signatures in this window for both screen reference as well as being able to print a guide sheet out with all of this information on it.

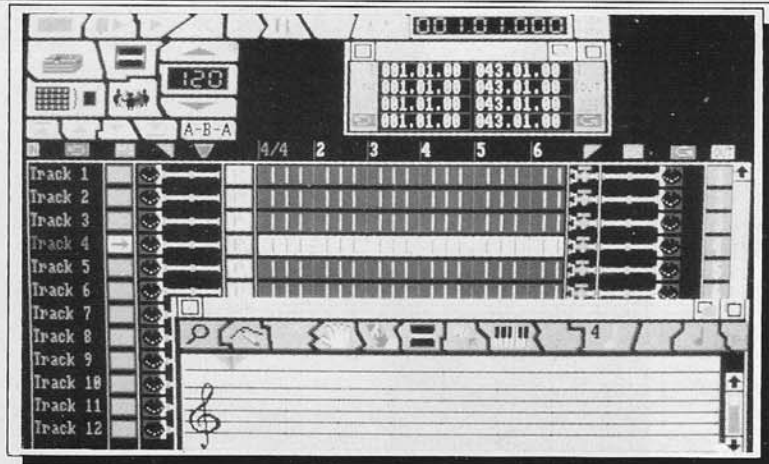
The loop record function is a very neat idea. You set the loop area over which you would like to record and then start it recording. You will notice that it repeats eight times. Upon stopping, a gadget pops up with buttons ranging from one to eight and you can click on any of these to hear one of the eight passes you made. You choose the best take and it then replaces that section of your recording. Again, a great idea. The approach used in *Bars and Pipes* is indicative of the type of development presently going on for the Amiga - innovative concepts being turned into reality.

Melissa Jordan-Grey from Blue Ribbon Bakery and Kailish Ambwani from Gold Disk will be coming out to Australia for the Sound and Vision show from the 3rd - 6th of July. Commodore Australia are exhibiting at the show and my partner Phil Beazley and I will be showing off some of the latest music software for the Amiga. *Bars and Pipes* and *Music-*

X will be shown there as well as other music systems such as *Dr. T's Copyist* program. We may even get to see a brand new multi-media program from Gold Disk which not only allows you to run complex graphics presentations and animations but play back Midi files at the same time. Definitely the shape of things to come.

Roland Australia will be providing their latest keyboards for demonstration

with the Amiga, heralding the emergence of the Amiga as a serious music computer. The presentation at Sound and Vision will be extensive so there will be many things to see and quite a number of interactive graphics and music systems on the stand. Commodore's decision to use Sound and Vision as its major exhibit this year demonstrates its intention to show the Amiga as a serious creative tool. I am sure you will agree. □



Bars and Pipes

Commodore computer PCB exchange service

- ◆ Same day certified mail despatch ◆
- ◆ Three months warranty cover ◆

Amiga 500 **\$129**

Commodore C64, 64C **\$99**

- Simply remove your faulty board from its casing
- Your board must be complete and in serviceable condition.
- Forward your securely packed board together with your remittance to:

P PTY LTD
Parcom

Whites Hill Shopping Village
Samuel Street
Camp Hill, QLD, 4152
Phone (07) 395 2211

BANKCARD/MASTERCARD/CHEQUE/POSTAL ORDER

NAME.....
ADDRESS.....
PHONE.....PC.....
PAY BY CHEQUE..... B/C..... M/C..... Postal Order.....
CARD NO.....
EXPIRY DATE.....
SIGNATURE.....DATE.....

STARDRIVE

THE AUSTRALIAN-MADE
AMIGA 5.25" EXTERNAL FLOPPY DRIVE

You might buy a backyard hack job for less money, but you only get what you pay for.

Check out the features of the *Stardrive*!

- Colour co-ordinated slimline case, NOT a hacked-up hard disk case!
- Top-quality TEAC mechanism, NOT an unknown "Ying Tong Fong" brand!
- 0.5m shielded lead with Amiga 23-pin plug, NOT a butchered 25-pin IBM plug on ribbon cable!
- Professionally-made controller, NOT just a home made pile of junk!
- Very low power consumption. An A500 power supply will run two A525 drives!
- Full one year warranty!
- 100% Amiga compatible!
- Model A525 (no power supply needed) \$275.00 (\$10 P&P)
- Model A525P (with power supply) \$315.00 (\$10 P&P)

DUAL-DRIVE CABLE \$35.00 (\$3 P&P)

Auto-configures two external drives

DRIVE-SELECT SWITCH \$15.00 (2 P&P)

Boot from external drive. No soldering required. With installation instructions.

df1: for Amiga 500

df2: for Amiga 2000/2500

**South Pacific Radio, 6 Sylvan Court
Kallangur 4503. Phone 07-204 5000**



COMMODORE ANNOUNCES THE BEST VALUE BUSINESS COMPUTER EVER!

Commodore, the world's largest supplier of computers, introduces the new PC30-III 80286 PC(AT).

Designed to keep small business in business. Because the new German made Commodore has full business capabilities, without a business price.

The new German made Commodore PC30-III caters for business applications such as • Spread Sheets • Accounting Software • Data Base • Word Processing.

The Commodore PC30-III is of course fully MS DOS compatible. It's also the ideal

system for existing PCXT users who need better performance from their 8088 system without outlaying a small fortune to achieve 80286 features.

The new Commodore PC30-III gives you everything you'd expect from an international computer company like Commodore. It is not a Taiwanese clone.



For further information phone your nearest Commodore dealer.

Computer Spot Shop 3, 99 Elizabeth Street, Sydney, NSW. Ph: (02) 221 1910. Computer Spot Shop 21A, Greenway Arcade, 222 Church Street, Parramatta, NSW. Ph: (02) 891 1170. Computer Spot 180 Pacific Highway, Charlestown, Newcastle, NSW. Ph: (049) 42 1522. Steve's Communication Centre 68 Wollongong Street, Fyshwick, ACT. Ph: (062) 80 6877. Maxwell Office Equipment 162 Nicholson Street, Abbotsford, VIC. Ph: (03) 419 6811. United Computers 991 Stanley Street East, East Brisbane, QLD. Ph: (07) 393 0300. Computer View 21 Brisbane Road, Bundamba, QLD. Ph: (07) 282 6233. Scarborough Fair Computer Centre Scarborough Fair Shopping World, Southport, QLD. Ph: (075) 32 5133. Bruining Headlam Computers 241 Pulteney Street, Adelaide, SA. Ph: (08) 232 0991. Bruining Headlam Computers 116 Cambridge Street, West Leederville, WA. Ph: (09) 381 2988.

What's new from Dr T?

Keyboard Controlled Sequencer V.3 and Copyist Apprentice

by Eric Holroyd

Eric reviewed KCS v1.6 and Dr T's Copyist Professional software in our August 1988 issue so the following article concentrates on the new features of version 3.0.

Keyboard Controlled Sequencer is a fully professional Desktop Music program to enable musicians to produce very high quality output. It has three basic modes of operation: Track, Open, & Song. In Track Mode the software becomes a sort of 48 track tape recorder (but infinitely more powerful) where music can be entered direct from your MIDI synthesiser on as many of the 48 tracks as you wish.

The Edit facility then lets you play any or all of your recorded tracks, in whatever order. Tracks and sequences may use IFF sound samples as instruments or use MIDI keyboard's own instruments.

Open Mode is a more generalised music sequencing system and provides fully independent looping of up to 128 completely separate sequences. As in Track Mode, sequences and tracks can contain any type of MIDI data, including such things as: Aftertouch; Pitch Bend; Realtime Commands; Note Data etc.

Also, Open Mode sequences can have "events" which stop and start (or otherwise influence) other Open Mode sequences so that you can create complicated music by having one sequence "call up" another.

In Song Mode you can "chain together"

sequences created in Track and Open Modes to form complete songs. If you've ever played with one of the "drum machine" packages you already know the basics of how Song Mode works.

Switch between the various modes at will and you are able to transfer data from one Mode to another to use the different functions and features of each. All three Modes have their own Edit, Play & Record screens with most of the commands being very similar.

Many similarities exist between KCS and the concept of word processing. Indeed KCS can be thought of as a professional grade Music Processor. The concepts of Cut, Copy and Paste are used extensively in Editing and Recording and save a great deal of data entry time. Little snippets or large lumps of music may be moved around piecemeal, or duplicated somewhere else in the song.

In many popular songs the same phrase is repeated in a different key and it's a very simple matter to Copy the original phrase and then Transpose it to the new key to save work and time. Also, when entering music you can "Quantize" it if you've made timing mistakes and the computer will correct the timing for you.

Menu options are selected by mouse, the Amiga and numeric keypads are used heavily on each of the Play and Record screens to issue various commands. For instance: F10 in Step Mode plays the last two bars, F2 in Song Mode loops the current segment, whilst the same key in Step Mode Exits to Play.

There's a whole host of these commands, which are all on the keyboard overlay supplied with the software. Incidentally, the HELP key is programmed to serve as an UNDO key.

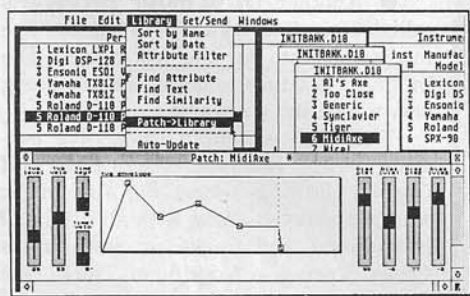
Just as with any other worthwhile

venture there's a fair bit of learning and groundwork to cover to become conversant with all the features of this fine piece of software. The manual is very good here and contains tutorials which help to get you "up and running" quickly.

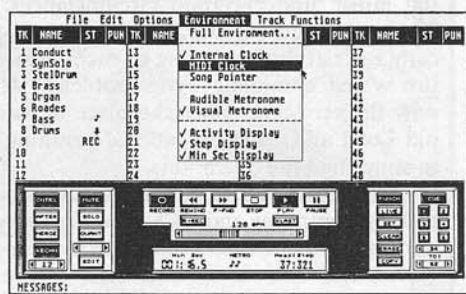
It's a long time since I've seen a manual as good in content, and to complete the picture it's hardbacked and spiral bound so that it'll either prop up against the monitor or lie flat on the desk. Good one guys!

The changes in the update are quite substantial and v3.0 now includes full drop down menus on the three Edit screens and the Track Mode Play & Record screen. Track Mode itself has been changed dramatically and has a slider for tempo, fast forward and rewind buttons, and a total of six "cue loops".

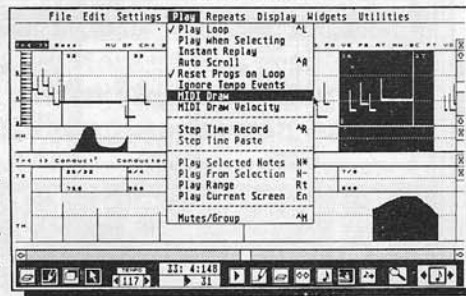
In addition cue looping is much faster and all 48 tracks are visible. A "Go To Measure" function has been added which lets you jump directly to any Measure (or Bar) and the new "remote control" feature eliminates the track status display thereby making it all easier to operate.



Sound Editor



Sequencer



Sequence Editor

Many of Track Mode's functions which were previously operated by clicking onto buttons have now been incorporated into the Track Functions menu. Some of the options on the Edit and Set Options screens have been put into the Options menu. The original keyboard commands are still available.

STOP now acts more like a PAUSE button and no longer resets to the beginning of the cue loop or song. ECHO has been renamed to RECHN (for "rechannelize"). TAB now duplicates the CUE button and starts the sequencer from the cue point.

Track 1 in Track Mode is now very close to the concept of a "conductor track" which makes many of the sequencer operations much faster. It is recommended that users treat this track as a conductor track and not use it for recording MIDI information. Future updates will concentrate more on this feature.

The Edit screens have been changed and are much more attractive. Transpose and Auto section has been replaced with the TRANSFORM menu which has all the old features plus some new ones such as more powerful commands for velocity, duration and controller processing. Split, Calc, and Vary have been improved and there is a new Environment menu where you can access many of the more commonly used options.

Timing improvements have been made to correct a previously obscure "bug" which could change the "feel" of the music under certain circumstances. The metronome counter is now automatically reset at the beginning of each measure which eliminates sync problems. A new Project Menu takes the place of the old Load and Save operations, resulting in simplified file operations.

We all know the Amiga is a multi-tasking computer and KCS takes full advantage of this via its Multi Program Environment. This is an extension of the Amiga's operating system and allows full

compatibility with other specially designed Dr T software. MIDI input and output and the sequencer's data storage area are all accessible from other software in the suite and a chapter in the manual discusses this feature.

One of the features now available under MPE is AutoMix which lets you create automated mixdowns with KCS using MIDI volume and continuous controllers messages. With AutoMix you can monitor existing controller data AT THE SAME TIME as you're recording new data. There's a display of 32 sliders on screen plus some auxiliary controls to handle this.

Level II V 3.0

● So far I've discussed the KCS v3.0 software. There's an even higher level of this which is known as "Level II v3.0" which includes all of the above with the addition of Dr T's *Programmable Variations Generator* and *Master Editor*. This is said to be "an enormously capable musical instrument and is arguably the most powerful composition system ever seen on this planet". Quite a claim, but the Dr T team have a habit of coming up with the goods to back up their claims.

The PVG provides an extremely powerful editing environment with a number of useful orchestration tools. Using PVG it's possible to change the values pertaining to a particular note. Say you want to change the pitch of a note. You have the option to change its velocity, timing, duration and its MIDI channel ALL AT THE SAME TIME. Other parameter values may be changed and music rotated or even time-reversed.

As an editing tool, the PVG excels and its ability to perform very complex jobs is quite astounding. Some of its functions appear to duplicate those of the KCS Edit screens but in reality they go much further. It is a simple matter to build "macros" of commonly used musi-

cal phrases and insert them as and where required.

One of the things that really astounded me with the PVG was the transposition example given in the manual. This says that: "You can transpose a sequence up by a half step while instructing the PVG to ignore some specific notes and transpose others. If it ignores C,D,F and G while transposing Eb, Ab, and Bb the result of this operation would be to modulate a sequence in the key of C minor into the key of C major".

The *Variations Generator* changes some aspect of a track or sequence whilst allowing PVG itself to determine other aspects for you. An example of this is making small variations in note velocities in order to make a melody line sound less "stiff". Rather than spend a long time entering a number of values you can simply set some parameters and let PVG apply them to the whole sequence. If you don't like what it's done when you play it back you simply UNDO it and try again.

There's a lot more to PVG and at its very deepest level it could be thought of as a tool for computer generated composition. Mainly though, most musicians would simply use it as a great editing and construction tool.

An American music industry magazine recently told of two of the top "pros" in the recording industry who'd used KCS exclusively right since it first became available for the Amiga. They saluted its flexibility and capabilities, saying that they'd produced vast amounts of commercial music with it, yet they were in effect still learning how to use it to its fullest.

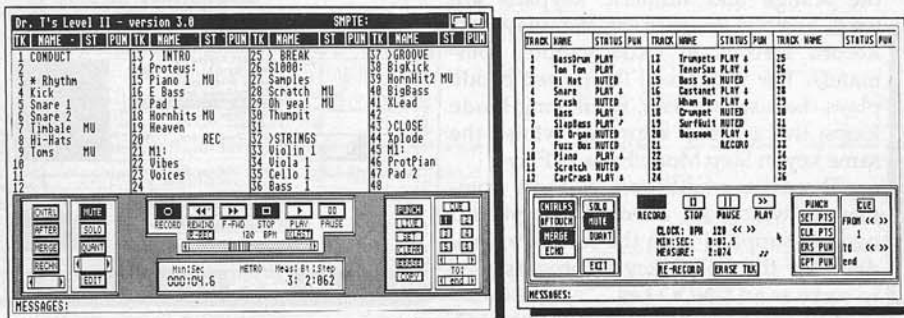
The article was written after they'd used the software for over a year so that's some accolade to its enormous power. My overview of KCS can only really scratch the surface and give you a few clues as to what it can do.

Tiger Cub

● Another Dr T music package is called *Tiger Cub* which is billed as "The music program for the rest of us". The program is educational as well as being easy to use and enjoyable.

Tiger Cub is a fully interactive program with Realtime Recording and Graphic Editing where the full music staff is on screen along with all details of instruments and tracks etc. It promises Quick Scoring, a Conductor Track, One Step Editing, Loop Recording and more.

(continued on page 20)



Level II v3.0

AMIGA ACCESSORIES

MEGASLIM 3½" Floppy Disk Drive

For Commodore Amiga 500/1000/2000



- Slim, one-inch high design
- Simplified mechanism
- Long life, reliable brushless direct drive motor
- Low power consumption
- Connects direct to computer — no power adapter required
- Fitted with 23 pin D-Series socket for additional drives connection
- On-Off switch
- One year warranty

PHILIPS MONITOR

CM 8833 14" CVBS and RGB colour monitor

- IBM PC compatible (CGA)
- fastblanking to enable superimposing
- stereo audio
- earphone socket
- resolution: horizontal 600 dots x 285 lines vertical
- optional: pedestal 'tilt and turn'

SUITABLE FOR:

AMIGA 500/1000
COMMODORE 64
ATARI ST
IBM (CGA)
NINTENDO
SEGA
HOME VIDEO

(Pedestal and some leads are optional)



DISTRIBUTED BY:

HOME ENTERTAINMENT
SUPPLIERS



PTY LTD

UNIT 1/128 BONDS RD, RIVERWOOD NSW, 2210 PH: (02) 533 3679 FAX: (02) 534 6421



Tiger Cub

The Multi Program Environment is also supported and lets you use IFF samples and instruments as well as being MIDI compatible.

Enter music either on a "pro" level with your MIDI keyboard and *Tiger Cub's* "tape recorder" screen or by "painting" notes with the mouse onto a "piano roll" on the screen. Everything happens in real time and you hear the music play whilst the piano roll scrolls. Just as in KCS the music you produce can be saved as industry standard MIDI files or as Amiga SMUS files.

Commodore UK has taken 10,000 units of Dr T's *Amiga MIDI Recording Studio* for their "Class of the '90s" schools package. Many British schools use the Amiga in preference to other computers and Commodore UK decided on this software as the one for students to learn about computer music. Commodore Sweden are also taking the same program for "bundling" with the Amiga.

Music professionals and dedicated home musicians alike would be well advised to check out the Dr T range and KCS in particular. It's worth remember-

ing too that music produced with any one of Dr T's packages can be used in any one of the others. This means that if you've been working the *MIDI Recording Studio* package and wish to upgrade to a higher level system such as KCS you can use your old data files and add to them with the more advanced features.

Copyist Apprentice v1.62

● First of all *Copyist Apprentice v1.62* is a stand alone music entry system which allows musicians and composers to create manuscript quality printouts directly from the computer screen using a very flexible command key entry system. Music notation, tempo instructions, time signatures, rests, accidentals and all the things that go into making a piece of printed music legible to a musician are entered direct from the Amiga keyboard to be printed out on any Epson compatible dot matrix printer. The results are very good and highly acceptable to any working musician.

Secondly, it's a "transcription" pro-

gram which can produce scores directly from sequencer files produced on a wide variety of MIDI sequencers which means that printed notated music can be produced direct from SMUS music files. This is great because musicians who can play well but who have limited knowledge of actually writing it all down can let the computer do the work for them.

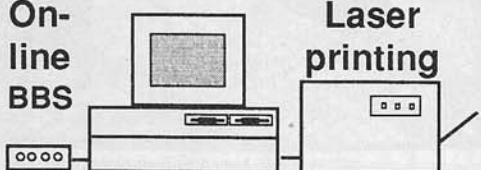
Also, a skilled pianist or keyboardist can enter the music into KCS then let the *Copyist* do the job of printing it out. This would be very good for band leaders or arrangers wishing to do arrangements for their group to play. As long as the music that you're listening to is on disk you can now get the *Copyist Apprentice* to do the hard work of translating it to paper for you.

The program comes on a single disk with a manual. The disk has a number of sample scores to print out and/or experiment with and the Frank Zappa tune printed here is one of them. It was done on a Star LC24-10 printer and I got very similar results on the Star NX1000 too. The example is presented as a single Treble Clef lead line with chord symbols and is a good illustration of the capabilities of the software. Of course, piano music with Treble and Bass Clef can also be printed and you can even add lyrics to your music.

Thus it's a complete music printing system and one which has been talked about for a long, long time. Inventors have been trying for many years to come up with a "music typewriter" but, due to the complexity of the musical language, it hasn't become reality before. Not until

AMIGA BUREAU

On-line
BBS



Laser
printing

Desktop Utilities

- 300dpi postscript laser & colour separations
- Australian distributors for ASDG products
- File conversions Amiga/IBM/Mac/Atari/C64
- BBS for prices, news, files; set dial 60 secs
- DTP, graphic art & scanning services
- Major Amiga packages supported

Desktop Publishing - File Transfers

Ultra convenient - an online bureau!
Send a disk or upload files for printing to our bulletin board (BBS) via modem. BBS supports 300, 1200, 2400 & (soon) 9600 Baud. Mastercard & Bankcard accepted on line. **Printing only \$5 setup & then \$1 or less per page.** Colour separations (PPage, PStream). File transfers & conversions. Graphic art service. Sharp colour scanner sales & 300dpi flatbed image scanning service.

Australian distributor for ASDG Products

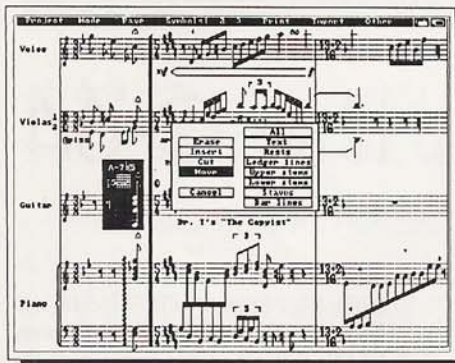
Professional Scanlab \$1300
interface card & software for Sharp
high resolution colour scanner
Dual Serial Board \$280
connect 2 serial devices at once
RESEP image processor \$70
Facc II disk accelerator \$40
Cygnus Ed fast text editor \$120
Prices are RRP including tax

PO Box 3053 Manuka ACT 2603

Message Line: 06 - 239 6658

Bulletin Board: 06 - 239 6659

For details and prices call
our BBS or ask for our
leaflet. We are on line
most hours / 7 days.



Copyist Apprentice

the electronic age did it finally appear, and I predict that it will rapidly become the "way to go" for music copyists.

When booting the *Copyist Apprentice* you have the choice of Normal or HiRes screen - the latter lets you see more of your music at once. When it is up and running you can set screen colours and other configuration parameters so that it boots directly next time. The entire thing is menu driven and has pull down me-

nus with commands selectable by mouse.

Alongside each command is the keyboard equivalent. There are also a number of HELP screens available from the "Others" menu which has File commands such as Copy, Rename, and Delete. The Project menu follows convention and has Open, Save, Save As etc, whilst the Print menu lets you print: Screen, Page, or complete File.

There are three Symbols menus which cover every possible musical symbol and the Page menu allows selection of First or Last page, Previous or Next page, Insert or Erase a page, and Jump to or Copy from a page. Import menu allows you to import: KCS files, MIDI files, or SMUS files for printing, editing or generally working on. Keyboard equivalents are available for all menu commands.

Some nice touches are included such as Vertical Alignment Gauge which ensures that the notes you're writing for the pianist's left hand line up correctly with what he/she is to play in the right hand. Long Note stems too are easy to produce

and you can see the results in the first bar of Frank Zappa's "The Black Page". The F# in the group of demi-semi-quavers has a particularly long stem and is written that way for ease of recognition by the performer. The other note stems which join up to the triple beam under the staff are of varying lengths and the whole is a very pleasing and "readable" grouping of notes.

There's much more in the *Copyist Apprentice*, as I said above it's a complete music writing system, and would certainly suit the needs of many musicians. The *Apprentice* seems to have pretty well all I need to write and print my current music.

Dr T's Music Software is distributed by Computermate Products (02)457-8388

Keyboard Controlled Sequencer v3.0 RRP \$299.00.

Level II v3.0 RRP \$419.00.

Tiger Cub RRP \$119.00.

Copyist Apprentice RRP \$119.00.

Copyist DTP RRP \$449.00. □

FREE

postage anywhere in Australia

MAIL ORDER

Logico

"Where Prices Are Born, Not Raised"

Why don't you be a part of this unique low-priced and rapid growing mail order service?

AMIGA SOFTWARE

ARCADE

Battlehawks 1942	54.00
Black Tiger	45.00
Bloodwych	54.00
Cyberball	45.00
Dragon Force	66.00
Dragon's Lair II	82.00
Dragon Ninja	54.00
Eagle Rider	55.00
Fire Power	37.00
Hard Drivin'	46.00
Jambala	45.00
Laser Squad	37.00
Pipe Mania	55.00
Police Quest	55.00
Tower of Babel	54.00
X - Out	55.00

GRAPHICS

B Paint	55.00
Deluxe Paint III	249.00
Graphics Studio	54.00

Pixmate

Rotoscope

MUSIC

Audiomaster II	119.00
Dr. T's KCS Level 2	420.00
Mimetic's Pro Studio	299.00
Music Studio III	120.00
Music - X	269.00
Studio Magic	139.00

PRODUCTIVITY

Can Do (PAL)	179.00
Pagesetter II	175.00
Pen Pal	185.00
Pixelscript	189.00
Pro Video Plus (PAL)	429.00
Professional Page V1.3	389.00

EDUCATIONAL

Animal Kingdom	70.00
Decimal Dungeon	59.00
Designasaurus	66.00
Doug's Math Aquarium	119.00

Fraction Action

Math Wizard	64.00
Spellbound	55.00
Word Master	65.00

Commodore 64 / 128

ARCADE

Action Fighter	cass \$27	disk \$35
Altered Beast	cass \$25	disk \$33
Black Tiger	cass \$26	disk \$35
Bushido		disk \$30
Castle Master Duel		disk \$39
Dragon Spirit	cass \$27	disk \$35
F15 Strike Eagle		disk \$35
Gunship		disk \$45
Iron Lord	cass \$27	disk \$35
Monopoly	cass \$27	disk \$34
Pipe Mania	cass \$29	disk \$39
Rainbow Island	cass \$26	disk \$39
Red Storm Ris.	cass \$36	disk \$47
Robo Cop	cass \$25	disk \$33
Scramble Spirits	cass \$26	disk \$35
Stunt Car Racer	cass \$27	disk \$35

Teenage Queen

Turbo Outrun	cass \$25	disk \$33
X - Out	cass \$26	disk \$35

PRODUCTIVITY

Bank Street Writer	\$75
Consultant	\$30
Newsroom	\$47
Partner	\$56
Printshop	\$70
Printshop Companion	\$55

EDUCATION

Animal Kingdom	\$38
Decimal Dungeon	\$38
Fraction Factory	\$34
Number Farm	\$37
Opposites Attract	\$22
Snoopy Writer	\$25
Verb Viper	\$38
Word Attack	\$66
Writing Adventure	\$75

JUST BECAUSE YOU DON'T SEE IT - DOESN'T MEAN WE DON'T HAVE IT !!

MAIL ORDER FORM Send To: LOGICO SHOP 3a Marrickville Shopping Centre 36 Victoria Rd. Marrickville NSW 2204

PROGRAM NAME	COMPUTER	CASSETTE/DISK	QUANTITY	PRICE

Method of payment: tick for Cheque ☐ Postal Order ☐

Tick for Bankcard ☐ Mastercard ☐ Visa ☐

Credit Card No _____

Valid from _____ Until end _____

Name as per card _____

Signature _____

Delivery to:

Name _____

Address _____

P/code _____

Telephone () _____

Date Sent _____

TOTAL \$ _____

POSTAL CHARGE FREE

GRAND TOTAL \$ _____



Phone Orders

02-519-5323

Super Explode v5.0

A graphics system for the C-64

by Eric Holroyd

Just when you thought we'd seen ALL the cartridge "add-ons" for the C-64 by now, this little ripper turned up.

IT'S BEEN AROUND for quite some time in the USA and has finally made it to our shores, being distributed by the company handling the VIDEO BYTE II digitiser reviewed last issue by Andrew Farrell.

Although it's very much a "stand alone" product (you don't need to have the digitiser to be able to use the Explode cartridge) it's fully compatible with that unit, which has a menu option allowing you to use Super Explode's features with the digitiser active. Alternatively, if you're already using Super Explode you can call up the digitiser from within it.

First of all, this is a graphics and utility system and not a hacker's copy cartridge. It doesn't have sprite manipulators, unlimited lives creators, or machine language monitors as such. What it does have is a host of good routines for capturing and manipulating C-64 graphic screens, with facilities for saving them to disk, displaying, converting between graphic format and other kinds of manipulation.

Pictures may also be sent to the printer and the Star "Rainbow" colour printer (and compatibles) is supported too. (I think this is what the Star NX-1000 Colour unit is known as in the USA.) I did several black and white printouts with very good results and, although I wasn't able to do a colour printout due to not having a colour printer, I'd expect them to be of the same quality as the B & W ones.

Utilities

● The utilities part of the system includes DOS Wedge of shorthand disk commands which certainly save a lot of typing when stacked against the standard Commodore DOS commands. Things like: C= and RUN/STOP will load and run the first file on a disk, pressing the Left Arrow key (top left of keyboard next to "1") and typing a filename gives the same effect as typing SAVE "FILENAME".8. All the usual commands such as Rename and Scratch are there, plus a few nice ones I've wished for previously.

viously.

Things like: Shift/A FILENAME will read any ASCII text file to the screen, Shift/R FILENAME reads any file to the screen, Shift/N FILENAME reads a file's starting address (very useful if it's a machine code file and you don't know how to start it running.) One of the many other utility features "conditions the current drive to save files for optimum fast loading" which is a benefit in itself.

There's an UN-NEW command too which works very well after you've reset the computer with the cartridge's built-in reset button. This is very useful for reading BASIC program code where the programmer has put in some anti-list command or suchlike. It can also be used for putting in those POKES that gamers like to use for extra lives or whatever.

Three kinds of graphics screens can be saved with the Super Explode unit: Multi Colour Bitmapped (Koala type), Hi Resolution Bitmapped (Doodle type), and Standard Commodore ASCII Text display. This last one is commonly used by games programmers, who use "redefined characters" for their various objects on screen. All can be easily redisplayed after being captured and saved to disk, either from within the cartridge or as a slide show by using the display program on the accompanying utility disk. Conversion between these formats is possible and there's a function to convert "split screens" which are the result of a "raster interrupt" running on a screen of redefined characters.

Manual

● There's no manual as such with the cartridge (although there is a handy reference card). Instead, the same display program I just mentioned lets you load in a series of SEQ files from the disk and print your own manual. This is a good idea as you can mess up your copy as much as you like with little notes and scribble etc, then print another one whenever you need to.

The manual is most extensive and really gets down to the "nitty gritty" of Commodore graphics and programmers will certainly appreciate this. You don't



have to be a programmer though to use Super Explode. I found it to be quite easy to use, with the process of capturing a picture and sending it to the printer very well explained step by step on the reference card. I liked the idea of being able to cycle through a number of screens to find the exact screen I wanted to capture too.

Also on the disk supplied is a nice little music and graphics program called *Swinth* which is "just for fun" and lets you choose from several music tracks and displays some very fancy graphics whilst they're playing. There's also a drawing program which creates *Doodle* type pictures and which has basic line, box and circle features. Then there's a program known as *Bootle* which extends the usefulness of Explode by creating a special loader program which will load and run a series of files from disk.

The nice thing about this is that one of the files to be loaded can be one of your own pictures, so that you could create and display your own title screen before running a program. Full instructions for *Bootle* are on the disk also. To complete

"This is a graphics and utility system and not a hacker's copy cartridge."

the list of utilities on the disk there's a 1526 Print Dump program which, of course, would be very useful to owners of that printer.

This is a very useful cartridge and I strongly recommend it. It's particularly good when used in conjunction with the *Video Byte II* digitiser, and an idea immediately comes to mind for the C-64 owner who's a family man, sports team member, or is in some other social group. Special printer ribbons are available from this same distributor which will print your digitised picture, team logo, group name, or whatever onto ordinary printer paper. The design can then be ironed straight onto a T-shirt or other garment and it all comes out really well.

You need to use Super Explode's "Mirror Image" function to flip the picture left to right before printing, other-

wise it'll come out like those press photos we've become so used to seeing in the local press where all the guitar players in the band are left-handed. (I saw one of Sir Donald Bradman in a Sydney newspaper batting left-handed once!)

Comparisons between products are always on the cards of course, and the Cockroach Graphics Utility system came to mind when I was reviewing the Super Explode unit. It too is a cartridge and disk system and works very well. The two units have a number of features in common, but an even greater number of individual features, which leads me to think that a dedicated 64-er who dabbles a lot in graphics manipulation would have every conceivable tool if he (or she) had both cartridges.

Review copy from **Romac Computers** (02) 547 2306. RRP \$85.00. □

VIDEO BYTE II the only FULL COLOR! video digitizer for the C-64, C-128

Introducing the world's first full color video digitizer for the Commodore C64, 64-C, C-128 & 128D computer. VIDEO BYTE can give you digitized video from your VCR, LASER DISK, B/W or COLOR CAMERA or OFF THE AIR or CABLE VIDEO (thanks to a fast! 2.2 sec scan time). New version 3.0 software features full RE-DISPLAY with MULTI-CAPTURE MODE, MENU SELECT PRINTING, EXPANDED COLORIZING FEATURES, SAVE to DISK & much more!

FULL COLORIZING! is possible, due to a unique SELECT and INSERT color process, where you can select one of 15 COLORS and insert that color into one of 4 GREY SCALES. This process will give you over 32,000 different color combinations to use in your video pictures. **SAVES as KOALAS!** Video Byte II allows you to save all your pictures to disk as FULL COLOR KOALAS. After which (using Koala or suitable program) you can go in and redraw or color your V.B. pics. **LOAD and RE-DISPLAY!** Video Byte II allows you to load and re-display all Video Byte pictures from inside Video Byte's menu. **MENU DRIVEN!** Video Byte II comes with easy to use menu driven UTILITY DISK with V3.0 digitizer program. (C64 MODE ONLY). **COMPACT!** Video Byte II's hardware is compact! In fact no bigger than your average cartridge! Video Byte comes with its own cable. **INTEGRATED!** Video Byte II is designed to be used with or without EXPLODE! V5.0 color cartridge. Explode! V5.0's menu will return you to VIDEO BYTE II's menu. **EXPLODE! V5** is the **PERFECT COMPANION!** Video Byte II users are automatically sent **FREE SOFTWARE** updates along with new documentation, when it becomes available. **PRINT!** Video Byte II will printout pictures in BLACK AND WHITE GREY SCALE to most printers. However when used with Explode! V5.0 your printouts can be done in FULL COLOR 8 by 11's SIDEWAYS on the STAR NX-1000C, JX-80. (OKIDATA 10/10's (print larger 6" by 9")) **USER SLIDE SHOW** program w/auto or manual display is standard with VIDEO BYTE program. And can be backed up! **Why draw a car, airplane, person or for that matter ... anything when you can BYTE it. ... VIDEO BYTE it instead!**

ONLY
\$165.00
+\$3.50 P&H

ROMAC COMPUTERS, PO BOX N122, PETERSHAM NORTH, NSW 2049. (02) 547 2306. Phone and mail orders accepted.

NEW! SUPER CARTRIDGE by The Soft Group EXPLODE! V.5

The **MOST POWERFUL DISK DRIVE and PRINTER CARTRIDGE** ever produced for the COMMODORE USER. Super **USER FRIENDLY** with all the features most asked for.

New FEATURES . . . (a) Faster non-blanking FASTLOAD. (b) MIRROR imaging of all HI-RES screens. (c) 4 Way color selection with insert, for all HI-RES screens. (d) Infinite FILE COPY for all SEQ. & PRG. files, copy your file once only, then write that file to as many disks as you like . . . great for single file copying by small user groups. (e) **FULL COLOUR PRINTING of ALL COLOR HI-RES & MULTI-COLOR SCREENS to ALL COLOR DOT MATRIX PRINTERS** (not for INK JET printers). (f) Direct one key access back to Video Byte software thru EXPLODE! V5.0's 2nd MENU. (g) Supports all popular printer interfaces. (h) **FREE** upgraded utility disk.

SUPER FASTLOAD and SAVE (50K-95ECs) works with **ALL C-64 or C-128's NO MATTER WHAT VINTAGE** or disk drives EXCEPT the 1581, M.S.D. 1 or 2, **SUPER FAST FORMAT** (8 SECs) - plus FULL DOS WEDGE w/standard format! **SUPER SCREEN CAPTURE.** Capture and Convert ANY SCREEN to KOALA/DOODLE. **SUPER PRINTER FEATURE** allows ANY DOT MATRIX PRINTER even 1526/802 to print HI-RES SCREENS in FULL COLOR (using 16 shade GREY SCALE). ANY PRINTER or INTERFACE COMBINATION can be used with SUPER EXPLODE! V5.0. **NEW and IMPROVED CONVERT** feature allows anybody to convert (even text) SCREENS into DOODLE or KOALA TYPE PICTURES w/FULL COLOR! **SUPER FAST SAVE** of EXPLODE! SCREENS as KOALA or DOODLE FILES w/ COLOR. **SUPER FAST LOADING** with COLOR RE-DISPLAY of DOODLE or KOALA files. **SUPER FAST LOAD or SAVE** can be turned OFF or ON without AFFECTING the REST of SUPER EXPLODE'S FEATURES. The rest of Explode! V5.0 is still active. **SUPER EASY LOADING and RUNNING** of ALL PROGRAMS from the DIRECTORY. **SUPER BUILT-IN TWO-WAY SEQ or PRG file READER** using the DIRECTORY. NEVER TYPE a FILE NAME AGAIN when you use SUPER EXPLODE'S unique LOADERS.

CAPTURE 40 COLUMN C or D-128 SCREENS! (with optional DISABLE SWITCH).

All the above features, and much more!

PLUS A FREE UTILITY DISK w/SUPER EXPLODE!

MAKE YOUR C-64, 64-C or C-128* D-128* SUPER FAST and

EASY to use. THE BEST THING or ALL . . . IS THE PRICE!!!

Still only \$85.00 or w/disable switch \$90.00. (* in C64 mode only) **ONLY \$85.00**

Also HEAT TRANSFER RIBBONS for MOST DOT MATRIX PRINTERS. Allows you to IRON-ON, in SCREEN-PRINT QUALITY, your video images or computer graphic masterpieces in **FULL COLOUR**, T-SHIRTS etc. **COLOUR FAST!** single colour or 4 colour. Ring for price and availability.

ONLY
\$85.00
+\$3.50 P&H

PC ADMIN PACK

- PC 30 SERIES III 286
- QUATRO PRO
- SPRINT
- 40 MEG HARD DISK
- 10 FLOPPY DISKS
- TUTORIAL TAPES
- FREE INSTALLATION

\$3295

Computer Spot



MAIL ORDER

Front 13 Gibbes Street.
East Chatswood, NSW 2067

Phone (02) **417 7395**

TOLL FREE (008) 25 2130. FAX (02) 417 8710

Prices subject to change without notice.

PC ACCOUNTS PACK

- PC 30 SERIES III 286
- SYBIZ BOOK WORKER
- SIDEKICK PLUS
- 10 FLOPPY DISKS
- TUTORIAL TAPES
- FREE INSTALLATION

\$3295

PC STUDENT PACK

- PC 10 SERIES III
- TWIN FLOPPY DRIVES
- BANK STREET WRITER
- TYPE (TYPING TUTOR)
- WHERE IN EUROPE IS CARMEN SAN DIEGO?
- KARATEKA
- TUTORIAL TAPES
- 10 FLOPPY DISKS
- FREE INSTALLATION

\$1799 (TWIN FLOPPY)
\$2499 (40 MEG HARD DISK)



PC HOME PACK

- PC 10 SERIES III
- TWIN FLOPPY DRIVES
- FIRST CHOICE
- TOUCH TYPING TUTOR
- SIM CITY
- TUTORIAL TAPES
- 10 FLOPPY DISKS
- FREE INSTALLATION

\$1799 (TWIN FLOPPY)
\$2499 (40 MEG HARD DISK)



Printers

* Epson LQ400 budget 24 pin	\$599
* Epson LQ550 push/pull 24 pin	\$749
* Epson LQ860 quality 24 pin colour	\$1349
* Epson LQ1050 15" 24 pin	\$1449
* Epson LQ2500 as above + colour	\$1995
* Epson LX400 budget 9 pin	\$399
* Epson LX850 push/pull 9 pin	\$499
* Epson EX800 fast business 9 pin	\$995
* Epson FX1050 fast 15" 9 pin	\$1195
* Epson QX5000 laser printer	CALL
* Star NX1000 CL 9 pin colour	\$595
* Star NX24-10 24 pin quality	\$699
* Citizen 5200 9 pin for c64 only	\$399
* Citizen GSX140 superb 24pin colour	\$899
* Super 5 EP3000 quality 24 pin	\$599
* Super 5 EP2000 quality 9 pin	\$399
* Super 5 EP1500 best buy 9 pin	\$299
* CBM 1230 9 pin serial/parallel	\$369
* CBM MCS820 thermal 24wire	\$299
* CBM MPS1280 15" budget 9 pin	\$499
* CBM 1.P806 budget laser printer	\$1995

OLIVETTI
DM105
COLOUR PRINTER
only
\$399

PC10 Series III

\$200 off!

- * 640K RAM Fully Expandable
- * Quality XT Turbo 10 MHz
- * 5.25" floppy disk drive
- * MS-DOS 3.2
- with 20 meg Harddisk no monitor **\$1299**
- with 20 meg Harddisk & CGA monitor **\$1799**
- with 40 meg Harddisk & CGA monitor **\$1995**

ATARI

- Portfolio hand held PC.....\$595
- Portfolio AC transformer.....\$59
- Portfolio Parallel Port.....\$69
- Portfolio Serial Port.....\$69
- Portfolio 128K mem card \$299
- 1040ST + 20 games.....\$799
- 520ST + 20 games.....\$799
- STACY laptop ATARI.....\$599
- ST 30 meg Hard Disk.....CALL
- ST External Drive.....\$1195
- ST SC1224 Col. Monitor \$595
- ST SM124 Mono Monitor \$395

AMIGA

* Amiga 2000	\$1995
* Amiga 500	\$ 799
* A500 StarterKit	\$ 899
* 1084 col monitor	\$499
* Philips monitor	\$399
* internal drives	\$269
* external drives	\$249
* A500 ram 512k	\$249
* 2meg ram A2000.....	\$899
* Trumcard A2000.....	\$399
* Trumcard A 500	\$595
* GVP scsi A2000	\$579
* 40 meg Quantum Hdisk	\$899
* 80 meg Quantum Hdisk	\$1395
* A590 Harddisk	\$995
* A590 controller	\$799
* A590 ram 1meg	\$299
* Genius Mouse	\$59
* Actionware Lightgun	\$49
* Amiga TV Modulator	\$59
* Perfect Sound II digitizer	\$259
* A2000 XT Bridgeboard	\$799
* A2000 AT Bridgeboard	\$1495
* Flicker Fixer board	\$899
* New cordless mouse	\$149
* Quinto Magni Genlock	\$2995
* DIGIVIEW 4.0	\$399
* Video Frame grabber	\$599
* Easy! Graphics tablet	\$799
* NEW PHILIPS TUNER	CALL
* A2000 HD computer	CALL
* COMIDI Jnr midi	\$ 99.95
* COMIDI Senior Deluxe	\$179.95
* Printer Face	\$ 179.95

STATIONARY

* 900 Sheets A4 quality tractor paper	\$30.95
* 500 Sheets recycled paper	\$29.95
* 2500 Sheets A4 tractor paper	\$19.95
* 3.5" diskette labels pack 100	\$29.95
* VHS Video labels pack 100	\$19.95
* Mailing labels pack 100	
* 5.25" floppy disks DSDD no frills	\$6.95
* 5.25" floppy disks DSDD special	\$9.95
* 5.25" floppy disks DSDD SKC	\$12.95
* 5.25" floppy disks DSDD Memorex	\$14.95
* 5.25" floppy disks DSDD Memorex	\$29.95
* 3.5" floppy disks DSDD no frills	\$17.95
* 3.5" floppy disks DSDD SKC	\$19.95
* 3.5" floppy disks DSDD Memorex	\$24.95
* 3.5" floppy disks DSDD Memorex	\$49.95
* 5.25" disk storage box 100	\$19.95
* 3.5" disk storage box 100	\$19.95

SUPER PRINTER SPECIAL!

SUPER 5 EP 1500
an excellent QUALITY
9 pin dot matrix printer
for only

\$299

suits any IBM compatible
and all Amiga & Atari

PC30 Series III

\$500 off!

- * 1meg RAM Fully Expandable
- * Quality AT 286 12 MHz
- * 3.5" 1.44 mg floppy disk drive
- * MS-DOS 3.3

with 20 meg Harddisk no monitor **\$1999**
with 20 meg Harddisk & EGA monitor **\$2499**
with 20 meg Harddisk & VGA monitor **\$2999**
with 40 meg Harddisk & EGA monitor **\$2699**
with 40 meg Harddisk & VGA monitor **\$3199**

**FREE
INSTALLATION
WOW!!**



AMIGA SOFTWARE

ACTION ARCADE

After War	New release	54.95
All Points Bulletin	Be a cop for a day	49.95
Altered Beast	Arcade fighter game	69.95
American Dreams	Quality games compilation	59.95
Barbarian 2 Palace	One/two player violence	49.95
Batman Movie	For those Batman fans	69.95
Battle Squadron	Hottest scrolling shoot 'em up!	59.95
Beverly Hills Cop	Be Eddie Murphy for a day	49.95
Beyond Dark Castle	Arcade platform action	69.95
Black Tiger	Arcade action great graphics	49.95
Black Magic	Arcade platform game	54.95
Blood Money	Another smash arcade hit from psychosis	69.95
BMX Simulator	Bike racing arcade action	19.95
Cabal	3D combat war game	59.95
Chariot of Wrath	A multi part arcade spectacular	69.95
Chase HQ	3D police car chase, get the bad guys	59.95
Clown-O-Mania	Classic shoot 'em up!	49.95
Commando	3D car racing game	54.95
Continental Circus	Very fast shoot 'em up	69.95
Cosmic Pirate	Arcade hit game, 2 player option	54.95
Double Dragon 2	Comic book heroes arcade	59.95
Dr. Doom's Revenge	A wacky asteroids game	49.95
Dr. Plummet	Dragons and warriors	79.95
Dragon's Breath	Latest to martial arts game	69.95
Dragon's Lair	The arcade comes home	59.95
Dragon's Lair II Sings C	Cartoon quality graphics	89.95
Driving Force	3D action multi vehicle racing game	64.95
Dynastix Dux	Hilarious arcade fun	59.95
European Dreams	Quality collection of past releases	59.95
Eye of Horus	Egyptian arcade strategy	59.95
Fallen Angel	More street fighting arcade	54.95
Fiendish Freddy	Six zany games of circus excitement	74.95
Fright Night	Horror arcade kill 'em up!	54.95
Ghostbusters 2	Movie arcade fun	59.95
Ghouls & Ghosts	Arcade hit game	59.95
Giants	5 great games inc. Outrun and Gauntlet	79.95
Hard Drivin'	Racing arcade	49.95
Highway Patrol 2	Car racing throughout America	59.95
Indiana Jones Last Crus	Guide Indy through all the perils	69.95
Indiana Jones Temple of D	Most dangerous adventure yet!	69.95
Keef Thief	Collect the loot for points	54.95
King Arthur	Adventure based on Arthur's days	69.95
Lost Dutchman's Mine	Arcade western fun	59.95
Maniac Mansion	Great horror action	59.95
Moon Walker	Michael Jackson's arcade hit	59.95
New Zealand Story	Great arcade fun	59.95
Ninja Warriors	Superb quality arcade hit	54.95
Operation Thunderbolt	War action	59.95
P.O.W.	Light gun action game	49.95
Pacmania	3D Pacman	59.95
Power Dnif	Arcade racing	69.95
Powerdrome	Arcade space racing	69.95
Proditor	Go Amel!	59.95
Quartz	Graphical puzzle game	49.95
Rainbow Island	Great new platform madness	59.95
Rick Dangerous	Fun arcade action	49.95
Robo Cop	Action game	59.95
Safari Guns	Arcade shoot up	49.95
Scramble Spirits	Arcade planes and ships	49.95
Shadow of Beast	Hot arcade classic	79.95
Shinobi	Latest samurai game	54.95
Shufflepuck Cafe	Addictive air hockey game	59.95
Sideshow	Light gun games	49.95
Silk Worm	Dual player action	59.95
Skidoo	Ski bike racing competition	39.95
Skewee	Kid's fun maze game	54.95
Skyfox 2	Quality budget game	14.95
Space Ace	Cartoon quality	89.95
Star Wars Trilogy	3 games in one	59.95
Story So Far #1	4 quality games	49.95
Story So Far #2	More arcade fun	49.95
Strider	Arcade platform	59.95
Stunt Car Racer	Quality 3D racer	49.95
Super Hang On	Fastest racing game ever	49.95
Superwonder Boy	Arcade platform fun	49.95
Super Cars	Fantastic car racing fun	54.95
Switch Blade	Arcade adventure	59.95
Targhan	Hot arcade action	49.95
Thrill Time Platinum 2	Games compilation	59.95
Thunderbirds	TV strategy/arcade	69.95
Turbo Outrun	Arcade car racing	59.95
Twin World	Platform game	49.95
Untouchables	Elliot Ness arcade killer	59.95
Vortex	Space action	69.95
West Phaser	Colt 45 lightning + great games	119.00
Wild Streets	Street fighting	59.95
Wind Walker	Superb kung fu game	49.95
Winners	Leader board/test drive	49.95
Wonder Boy in Monster L	Arcade smash hit	59.95
X-Out	Fast paced space shoot 'em up	59.95
Xenon 2	Fast coin-op	64.95

ADVENTURE

Austerlitz	Historic war battles	69.95
Aquanaught	Undersea graphic adventure	59.95
Bard's Tale	Role playing	54.95
Bard's Tale 2	Further adventures	54.95
Battlefield	Role playing adventure	69.95
Deja Vu 2 Lost in Las V	The adventure continues	74.95
Dragons of Flame	Latest D&D series	54.95
Drakkhen	Deep dungeon dwellers	59.95
Faery Tale	Animated fantasy	49.95
Future Wars	Graphic adventure quest	64.95
Gold Rush	Graphic adventure from Sierra	69.95
Hound of the Shadow	Graphic adventure game	49.95
It Came From The Desert	Latest Cinemaware release	59.95
Jetsons	Great graphic adventure game	49.95
Kings Quest Pack of 3	Best adventure collection	79.95
Leisure Suit Larry	Adults only adventure	59.95
Leisure Suit Larry 2	Looking for love	79.95
Leviathan	Horror action adventure	54.95
Manhunter New York	Alien takeover	74.95
Ooze	Horror adventure	64.95
Psycho	Horror movie based adventure	49.95
Police Quest	Police adventure Sierra	69.95
Romance of 3 Kingdoms	Epic sized adventure	114.95
Space Quest 2	Sierra adventure	59.95
Space Quest 3	Outer space Sierra	69.95
Swords of Twilight	Role playing adventure	54.95
Talespin	Role playing	64.95
Tintin on the Moon	Cartoon adventure	69.95
Weird Dreams	Crazy adventure	59.95
Zac McKracken	From Lucasfilms	59.95

STRATEGY

Annals of Rome	Historical strategy game	69.95
Archipelagos	Great strategic arcade adventure	54.95
Armada	3D galleon warships	49.95
Balance of Power 1990	Excellent political strategy	79.95
Battle Chess	3D animated chess	74.95
Block Out	3D tetris puzzle game	69.95
Bloodwych	One or two player role-playing	49.95
Bloodwych Data Disk	Expand your dungeons	49.95
Bomber (Fighter)	Voted best game! Combat simulator	59.95
Borodino	Historic strategy game	49.95
Carrier Command	Superb 3D strategy	69.95
Chess Player 2150	Considered the best	59.95
Chessmaster 2000	Best quality 3D chess ever	54.95
Cleud Master Detective	Quality family game	49.95
Colossus Chess X	So you think you're a good chess player?	69.95
Defender of the Crown	Classic old England	69.95
Demon's Winter	Dungeons and Dragons just keeps going	54.95
Dungeon Master	D&D for Amiga (1 meg needed)	69.95
Dragon Force	Combat team sci-fi strategy game	59.95
Elke	Classic space epic (A500/2000 only)	59.95
Empire	Superb strategy	49.95
Full Metal Planet	Sci-fi graphic strategy hit!	59.95
Hillstar	3D space sci-fi game	69.95
Interphase	3D computer infiltration	69.95
Infestation	3D space sci-fi game	59.95
Iron Lord	Multi-part old England strategy	59.95
Laser Squad	Combat team simulator	59.95
Lord of the Rising Sun	Quality Cinemaware	69.95
Millennium 2.2	Manage and maintain the moon	59.95
Never Mind	Puzzle game	54.95
Omega	Design and test your own tank	59.95
Populous	Control the masses	54.95
Populous Data Disk	More worlds	34.95
Reach for Stars 3rd Ed.	Space strategy	39.95
Red Lightning	1990's war strategy	39.95
Return to Atlantis	Heavy D&D strategy	14.95
Sargon Chess 3	Top chess game	99.95
Scrabble	Family word game	59.95
Solitaire Royale	Compilation card games	49.95
Star Blaze	Space strategy	54.95
Star Command	Deep space adventure	54.95
Star Fleet	Space strategy	69.95
Stellar Crusade	Space strategy	54.95
Trump Castle	Gambling compilation	69.95
Ultima 4	Heavy D&D strategy	54.95
UMS	Battle of Waterloo included	79.95
UMS Scenario Disk	More battles for UMS	34.95
Waterloo	Historical war sim	69.95

SPORTS

Jack Nicklaus Courses	Extension data disk	39.95
Jack Nicklaus Golf	Partner 18 holes with Jack	69.95
Kick Off	Best soccer game	54.95
Pio Tennis	Best tennis game seen	49.95
TV Sports Football	Football match	69.95
TV Sports Basketball	Quality basketball fun	69.95
Wide World Sports	18 fantastic sports events	49.95
World Class Leader Board	#1 golf game	49.95
Magic Johnson Basketball	Quality game	79.95

SIMULATORS

3D Pool	Superb pool simulator	49.95
Chomp	Boxing simulator	69.95
Cycle Inter Grand Prix	3D motorbike racing simulator	69.95
Distant Suns	Professional astronomy package	89.95
F16 Combat Pilot	The fighting simulator	69.95
F16 Falcon	Brilliant combat sim, 16 missions	54.95
F16 Falcon Mission Disk	More missions for F16	49.95
FA18 Interceptor	Excellent combat simulator	54.95
Ferrari Formula 1	Car racing simulator	54.95
Flight Sim. Scenery Disk	Japan, Europe, USA	59.95
Flight Simulator 2	Professional simulation	99.95
Gunship	Helicopter combat simulator	59.95
Horse Racing	3D animated racing fun	69.95
Hunt for Red October	Hurry free movie pass!	49.95
Lombard Rally	Car rally racing	69.95
Nigel Mansell's Grand Prix	Test your driving skills	54.95
North & South	Quality action/simulator	59.95
Oil Imperium	Quality business simulator	69.95
Ports of Call	Shipping merchant	39.95
RVF Honda	Motorbike racing	49.95
Silent Service	Submarine simulator	49.95
Tarot Master	Tarot simulator	49.95
Test Drive 2	Race cars	59.95
Test Drive 2 Cars	More cars	44.95
Test Drive 2 Muscle Cars	And more	44.95
Test Drive 2 Scenery	Race somewhere different	44.95

EDUCATIONAL

3D Graphics Disk	Source code from book on disk	24.95
Aesop's Fables	Improve your child's English	34.95
Amiga Basic In & Out Disk	For those reading the book	24.95
Amiga C for Begin Disk	Source code from the book	24.95
Amiga Disk Drives Disk	Helpful disk for the book	24.95
Amiga DOS In & Out Disk	Source files from the book	24.95
Amiga Graphics In & Out	Source code from the book	24.95
Amiga Machine Language	Source code from the book	24.95
Amiga More Tricks & Tips	Helpful disk for the book	24.95
Amiga Sys. Prog. Guide	Source code	24.95
Amiga Tricks & Tips Disk	Source code from the book	24.95
Animal Kingdom	Learn about the animals	79.95
C for Advanced Prog. Disk	Improve your C programming	24.95
Chicken Little	Learn to read educational	34.95
Decimal Dungeon	Educational junior high 5th	69.95
Designasaurus	Prehistoric graphics fun	69.95
Discovery Maths	Educational fun	39.95
Discovery Spelling	Educational fun	39.95
Early Shapes	Early learning	49.95
Fraction Action	Educational 5th grade and up	69.95
Funschool Series	Six games full of learning	59.95
Gold of Americas	Historical simulator	44.95
Intelligence	Quality typing tutor	54.95
Kid Talk	Quality educational software	49.95
Kinderama	Educational preschool age	69.95
Light Force	Science and physics educational	69.95
Little Computer People	Great people pet fun	19.95
Little Red Hen	Reading educational	34.95
Mastering CLI	Help for AmigaDOS	69.95
Match II	Match shapes and colours	49.95
Math A Magician	Maths educational	49.95
Math Talk	Quality educational	49.95
Math Talk Fractions	More on maths	49.95

Math Wizard	Maths fun	69.95
Mavis Beacon Teach Typ	#1 typing tutor	99.95
Pictionary	Great family game	49.95
Puzzle Story Book	Kiddies fun early learning	59.95
Read & Rhyme	Educational 5 to 10 yr olds	69.95
Read A Rama	Reading education	69.95
Rhyming Notebook	Children's fun	59.95
Sim City	Design and maintain model city	84.95
Sim City Editor	Create your own terrain I	39.95
Spellbound	Quality spelling	59.95
Speller Bee	Quality spelling	49.95
Trivial Pursuit	Special family game	14.95
Where in USA is Carmen S	Geography educational	79.95
Where in World is Carmen S	Geography educational	79.95
World Atlas	Computerized world atlas	104.95

BUSINESS

Accountant	Professional business system	495.00
B.E.S.T. Accounting	Full accounting system	595.00
B.E.S.T. Accounting Mini	Limited client's version	395.00
Critics Choice	Kind Words/Maxiplan/MF Filer	149.95
Data Retrieve Protes	Programmable database	299.00
Day By Day	Home cash flow organizer	69.95
Deluxe Video 3	Design animated scripts with sound	199.95
DIG Calc	Quality spreadsheet	39.95
E Clips	Structured clip-art for Pro-page	159.95
Electronic Cash Book	Watch your cash flow	199.95
Excellence	Professional wordprocessor	395.00
Maxiplan Plus	Fully featured spreadsheet	199.95
Page Stream	Quality desktop publishing	299.95
Page Stream Fonts	Additional fonts	59.95
Pro Video Plus	Pro char gen software	595.00
Professional Page	Quality dtp package	395.00
Prowrite	Wordpro with colour and graphics	229.95
S.B.A. Cash	Small bus cash book	169.95
Scrabble Platinum	Quality wordprocessor	159.95
Superbase Personal	Home filing system	89.95
Superbase Personal 2	Easy to use database	199.00
Superbase Professional	Fully programmable version	399.00
Top Form	Quality forms designer	134.95
Ultracard	Hypercard comes to the Amiga	89.95
Word Perfect	The ultimate word processor	599.00
Works Platinum	3 in 1 business pk	289.95

ART

Forms in Flight 2	3D object CAD + stereo vision	79.95
Aegis Graphics Kit	Graphics, animation plus adventure	149.95
Animagic	Easy low-res animations	174.95
Aust. Animals Col. Book	Data disk for any paint program	29.95
CAD Parts for Aegis Draw	Structured parts	49.95
Comic Setter	Design your own comic strips	99.95
Comic Setter Fun Figs	Clip art for comic setting	39.95
Comic Setter Sci Fi	Ready made pics and figures	39.95
Comic Setter Sup. Heroes	Clip art for comic setting	39.95
Deluxe Paint 2	The original graphic masterpiece	99.95
Deluxe Paint 3	The best art/dPaint package	299.00
Deluxe Paint 3 Help	Tutorial for dPaint 3 users	39.95
Deluxe Photo Lab	Ham image processing	295.95
Deluxe Print 2	Posters and banners, supports colour	199.95
Digi Paint 3	A high quality graphics editor	149.95
Digiview Gold 4	Voted, best digitizer + dynamic-res	299.00
Director	Professional graphics language	114.95
Director Tool Kit	Add wipes, fades, spirals to director	69.95
Fantavision	Animation package	89.95
Intro CAD	Super high quality printouts!	149.95
Intro CAD parts	CAD bits and pieces	49.95
Kara Fonts	Superb colour fonts for dPaint	129.95
Modeller 3D	Construct 3D models	129.95
Movie Setter	Animation creator	99.95
Pixmate	Profession graphic editor	89.95
Printmaster Fonts & Bords	Art for Printmaster	49.95
Printmaster Plus	Design and print signs, cards, etc.	59.95
Professional Draw	Structured graphics designer	295.00
Script 3D	3D rendering pack	199.00
Sculpt Animate 4D	Ultimate 3D render/animate	699.00
Sex Fonts	Colour fonts for dPaint, etc	59.95
TV Text	Character generator	179.95
TV Text Pro	Improved title with fonts	279.95
Video Effects	Professional graphic effects	299.00
Video Scope 3D	3D animation package	295.00
Videoscape 3D Des Disk	Structured models	49.95

UTILITIES

A Talk 3	Complete professional comms pack	109.95
AC Basic	Quality basic compiler	395.00
Amiga Enhancer Pack	1.3 DOS limited stock	29.95
Arexx	Programming interface language	89.95
Award Maker Plus	Print your own awards	49.95
Aztec Manx C Profess.	C Compiler	595.00
B.A.D.	Floppy disk optimizer	79.95
Benchmark Modular 2	Programming language	310.00
Can Do	Create stand alone software via icons	249.95
Cross DOS	Read write MSDOS files	59.95
Cygnos Ed Professional	Programmers editor	149.95
Devpac	Programmers assembly language	184.95
Disk Master	High quality file utility	79.95
DOS 2 SOS	Convert IBM/Amiga files	94.95
Elan Performer	Display your pictures with style	89.95
FACC 2	Ram cache system	59.95
File Print	High quality b/w graphic dump	84.95
Fortran 77	Programming language	229.00
GFA Basic	Quality basic	254.95
Gomf and Button	Gomf version includes Button	124.95
GPterm	Comm's with viate	99.95
Grabbit	Screen captures to IFF format	59.95
Home Builders CAD	Home design and costing	299.95
Interchange Turbo	Share sculpt 3D and videoscape data	114.95
Latitice C Development V5	C compiler	449.00
Lisp	Programming language	164.95
Mac to DOS	File transfer package	239.95
Marauder 2	Disk copier	74.95
Mega DOS	Amiga DOS tutorial	19.95
Megadisk	Vol. 2 through to 15 available	19.95
Modular 2	Programming language	259.95
Perfect Sound A500	New version	224.95
Project D	Disk copier and utilities	79.95
Quarterback	Disk copier and utilities	119.95
Superback	Hard drive back up tool	99.95
True Basic	Hard disk back up	99.95
UCSD Pascal	Programming language	254.95
UCSD Pascal	The industry standard	295.00
Y.Covox	Back up your games	69.95

NEW

NEW RELEASES ★ NEW RELEASES ★ NEW RELEASES ★

C64

Ninja Mutant Turtles
Presumed Guilty
Supercars
Knights Legend
Wind Walker
Ghouls & Ghosts
Fighter Bomber
Rainbow Island
Paperclip 3

AMIGA

Ninja Mutant Turtles
Vette
Iron Lord
Pagestream 1.8
Black Tiger
Dragon's Lair II
Supercars
Coca Cola Games
Can Do
Ghouls & Ghosts
Fighter Bomber
Psycho
Dragon's Breath

PC

Colonel's Bequest
Code Name Iceman
Fighter Bomber
Hero's Quest
Nightmare on Elm St
Shogun
Hitwave Offshore
Superboat Racing
Blade Warrior
Indianapolis 500
New Education

ATARI ST

Cabal
7 Gates of Jambala
Chase HQ
Untouchables
Turbo Outrun
F29 Retaliator
Fighter Bomber
Super Cars

Call for DETAILS!

AND MORE AMIGA

HOME

Desktop Budget	Maintain personal budget	74.95
Home Accounts	Balance all your bills	99.95
Kind Words	Quality wordpro/supers graphics	99.95
Personal Accounts Plus	Watch where the dollars go!	69.95
Publishers Choice	Beginners dtp package	199.95
Textcraft	Budget word processing	44.95
Transcript	Budget word pro package	44.95
Your Family Tree	Genealogy database	99.95

MUSIC

Audio Master 2	Audio editing tool	149.95
Deluxe Music Cons Set	Composition editor	179.95
Dr T Copyist Professional	Midi software	499.00
Dr T Keyboard Cont Seq	For music production people	399.00
Music X	Quality midi and editing tool	299.95
Sonix	Easy to use editor	114.95

IBM SOFTWARE

ARCADE ACTION

Asterix Get-A-Fix	Zany comic strip fun game	59.95
Arcade Bonanza	18 great classic arcade hits	34.95
American Dreams	Collection of arcade hits	59.95
Beverly Hills Cop	Play Eddie Murphy	49.95
Bruce Lee Lives	Kung Fu action hit	59.95
Death Track	3D racing action	69.95
Double Dragon 2	Arcade action	59.95
Dragon's Lair	Arcade smash hit	59.95
European Dreams	Compilation of quality games	59.95
Fire Power	2 player tank battles	59.95
Fools Errand	Collection of zany puzzle games	84.95
Grand Prix Circuit	Car racing	59.95
Hard Drivin'	3D stunt driving	59.95
If It Moves Shoot It	Fast paced shoot 'em up	49.95
Knight Force	Arcade action	59.95
Lode Runner	Arcade classic	19.95
Moon Walker	Michael Jackson's arcade hit	59.95
Rick Dangerous	Arcade action	59.95
Robo Cop	Serve the public trust	69.95
Safari Guns	Action shoot out game	49.95
Skweek	Arcade action	54.95
Starglider 2	3D space strategy	49.95
Stunt Car Racer	Superb 3D car racing	69.95
Test Drive 2	Sports Car racing	69.95
Test Drive 2 Cars	Extra cars	44.95
Test Drive 2 Scenery	Extra scenery	44.95
Wind Walker	Arcade action	49.95
Xenon 2	Arcade smash hit	69.95

ADVENTURE

All Dogs Go To Heaven	Children's adventure	59.95
Bard's Tale 2	Role playing adventure	59.95
Codenamed Iceman	Latest quality Sierra adventure	64.95
Colonel's Bequest	Epic adventure game	79.95
David Wolf Secret Agent	Graphic adventure game	69.95
Die Hard	Movie action adventure	69.95
Dragons of Flame	Role playing epic	64.95
Dragon Wars	Role playing game	59.95
Dungeon Master Assis. 2	Role playing tool	54.95
Eye of Horus	Egyptian adventure	69.95
Faery Tale	3D adventure	49.95
Gold Rush	Sierra adventure	59.95
Heroes of Lance	Role playing adventure	54.95
Heroes Quest	New Sierra adventure	79.95
Hillsfar	Tune your D&D players	69.95
Indiana Jones Last Cru.	3D adventure	89.95
Kings Quest 4	Epic Sierra adventure	89.95
Kings Quest Triple Pack	1, 2, 3 of the series	89.95
Legacy of Ancients	D&D adventure	64.95
Leisure Suit Larry 2	Adult adventure	59.95
Leisure Suit Larry 3	A fine addition	59.95
Manhunter New York	Alien adventure	74.95
Manhunter San Francisco	Still aliens adventure	69.95
Maniac Mansion	Crazy arcade adventure	69.95
Mean Streets	3D graphic adventure	89.95
Mines of Titan	3D sci-fi adventure	69.95
Neuroancer	Sci-fi adventure	59.95
Nightmare on Elm Street	Horror adventure game	59.95
Police Quest 2	Sierra adventure	59.95
Presumed Guilty	Detective adventure	59.95
Psychic War	Sci-fi adventure	89.95
Rocket Ranger	Space hero action	69.95
Space Quest 2	3D adventure	59.95
Space Quest 3	Sierra adventure	59.95

Star Trek 5	Movie adventure	69.95
Sword of Samurai	Kung Fu action	89.95
Sword of Aragon	Role playing dungeon game	54.95
Ultima 4	Role playing epic	69.95
Ultima 5	Heavy D&D adventure	79.95
Ultima Trilogy	1, 2, 3 in the series	69.95
Wilnam	Sci-fi adventure	29.95
Zak McKracken	3D adventure fun	69.95

SPORTS

Jack Nicklaus Courses	Data disk	39.95
Jack Nicklaus Golf	Golf simulator	54.95
Pro Tennis	Best tennis game seen!	49.95
Soccer Microprose	Sports action	59.95
TV Sports Football	3D football simulator	54.95
W.C. Leadboard Real S.	Best golf game	59.95
Wide World Sports	18 great sports games	49.95
World Tour Golf	Golf	54.95

SIMULATOR

688 Attack Sub	Submarine simulation	69.95
Blue Angels	Formation flight sim	69.95
Bomber (Fighter)	Voted #1 combat simulator	79.95
Chuck Yeager's F15 Sim. 2	Fight simulator	69.95
Cycle Inter. Grand Prix	Motorcycle racing	69.95
F15 Strike Eagle 2	Combat simulator	69.95
F16 Combat Pilot	Combat simulator	59.95
F16 Falcon	Fighter plane simulator	69.95
F19 Stealth Fighter	Complex fighter simulator	114.95
Falcon AT	Quality fighter simulator	89.95
Ferrari Formula 1	Car racing	64.95
Gunship	Helicopter simulator	69.95
Harley Davidson	Motorbike simulator	59.95
Horse Racing	Betting game	69.95
Hunt for Red October	Hurry free movie pass!	49.95
Indianapolis 500	Best car racing ever seen	64.95
Life & Death	Surgery simulator	59.95
Lombard Rally	Rally car racing	69.95
M1 Tank Platoon	Quality 3D tank combat	89.95
Oil Imperium	Oil company simulator	69.95
Thunder Ridge	Air combat	59.95
Thut	Street racing simulator	79.95

STRATEGY

A10 Tank Killer	Tank busters	79.95
Abrams Battle Tank	War strategy	64.95
American Civil War 3	Historic simulation	49.95
Ancient Art of War	Historic strategy	74.95
Ancient Art of War at Sea	Historic strategy	74.95
Ancient Land of Ys	D&D adventure	89.95
Armada	Strategic sea battles	49.95
Autoduel	Sci-fi strategy	49.95
Balance of Power 1990	Political simulator	69.95
Battle Chess	3D animated chess	69.95
Battletech	Sci-fi strategy	79.95
Bordino	Strategy	49.95
Budokan	Strategy action	64.95
Carrier Command	Ultimate 3D simulation!	49.95
Chessmaster 2100	3D animated chess	69.95
Curse of Azure Bonds	Role playing adventure	69.95
Defender of Crown	Classic old England	69.95
Elite	Space trade game	49.95
Empire	War strategy	49.95
Fire Brigade	Tank battle simulator	54.95
Gold of Americas	Historical adventure	39.95
Harpoon	Warships simulator	79.95
Hoyes Book of Cards	Card games competition	59.95
M1 Tank Platoon	War simulator	89.95
Mech Warrior	3D battle tech game	69.95
Millennium 2.2	Sci-fi strategy	69.95
Living Jigsaw	Animated jigsaw fun	69.95
Murder Club	Detective mystery	79.95
Murder Party	Mystery detective game	54.95
Never Mind	3D puzzle game	59.95
North & South	Quality war game fun	59.95
Omega	Design your own robot tank	59.95
Pool of Radiance	Role playing epic	64.95
Populous	Play god over the world!	69.95
Populous Data Disk	More worlds to control	34.95
Reach for Stars	Space strategy	49.95
Sargon 3 Chess	Chess	99.95
Solitaire Royale	Card games	69.95
Space Rogue	Space trading adventure	59.95
Star Command	Space strategy	54.95
Star Fleet 2	Space strategy game	99.95
Star Trek Rebel Universe	Space strategy	69.95
Starlight 2	Space strategy epic	64.95
Tank	Tank strategy game	79.95
Their Finest Hour	Brilliant 3D air combat game	79.95
Tournament Bridge	Bridge game	79.95

Trump Castle	Collection of solitaire games	69.95
Wargame Construction Kit	Design your own war games	54.95
Waterloo	3D historical war simulator	79.95

ART

4 in 1 Art Portfolio	Clip-art collection	169.95
Autosketch	Structured graphics editor	149.95
Bannermania	Signs, banners, etc.	59.95
Deluxe Paint 2 Enhanced	Graphics package	299.00
Fantavision	Graphics and animation	99.95
Garfield Deluxe	Graphics and printing	69.95
Looney Tunes Print Kit	Graphics and printing	34.95
Print Power	Print cards and banners	74.95
Print Shop	Print cards, banners, signs	89.95
Print Shop Library	Additional graphics	54.95

BUSINESS

1st Choice	Quality 3 in 1 business package	189.95
Attache 4	Accounting package	859.00
B.E.S.T. Accounting	Accounting	595.00
Back It	Hard disk back up utility	59.95
Bank Street Writer Plus	Quality wordprocessor	119.95
Beyond Word Writer	Prof. wordprocessor	289.95
Data Manager	Simple quality database	59.95
Day by Day	Cash flow analysis	79.95
Enable CE	Compilation business pack	179.00
Home Accounts	Home cash control	89.95
Microsoft Word	Quality word processor	649.95
Multimate Advantage 2	Professional business	910.00
On Balance	Cash book	89.95
Open Access 2 Plus	Professional business	1130.00
Publish It	Quality desk top publishing	299.95
Publish It Lite	Budget dtp package	89.95
Switcalc	Quality spreadsheet	59.95
Supercomm	Top comms package	129.95
Ventura	Professional desktop pub	1395.00
Word Perfect 5.0	Professional wordprocessor	799.00
Word Writer	Quality word processor	69.95
Wordstar Professional	Word processing	699.00
Mini Office Personal	3 in 1 business package	89.95
DOS RX	Hard disk utilities	59.95
MS DOS 4.01	DOS upgrade	244.95
Partner	Background PC utilities	59.95
O DOS 2	Budget DOS utilities package	39.95
Turbo C	Programming language	195.00
Turbo Pascal	Programming language	249.95
Wedding Planner	Plan your wedding day	69.95

EDUCATIONAL

Alge Blaster	Algebra skills	69.95
Crash Course Typing	Typing tutor	64.95
DBase 3 Plus Get Started	Tutorial package	129.95
Family Feud	Family fun	44.95
Funschool Series	Educational	54.95
Jeopardy	Family fun	49.95
Joshua's Reading Machine	Reading tutor	59.95
Lotus 123 Comp. Tutorial	Learn to use Lotus	189.95
Lotus 123 Get Started	Quick start course on Lotus	129.95
Math & Me	Early learning maths	49.95
Math Blaster Mystery	Education	69.95
Mavis Beacon Teaches T.	Typing tutor	89.95
MS Word 4 Get Started	Tutorial package	129.95
Muppet Adventure	Children's adventure fun	39.95
New York Times Cword	Great crossword fun	34.95
Numbers Count	Early learning maths	34.95
Once Upon a Time 2	Education	59.95
PC Complete Tutorial	Tutor	134.95
PC MS DOS Get Started	First steps PC tutor	84.95
Pictionary	Great family game	59.95
Playroom	Early learning skills	69.95
Puzzle Story Book	Educational	59.95
Race Car Rhythmic	Math skills	69.95
Rhyming Notebook	Word skills	59.95
Sim City	Design and control a city	84.95
Spell It	Early learning skills	69.95
Stick Alphabet	Early letters learning	69.95
Stick Math Plus/Minus	Early maths skills	69.95
Stick Numbers	For the young	69.95
Stick Reading	Early word skills	69.95
Stick Word Problems	Comprehension	69.95
Type	Typing tutor	49.95
Where in Europe is Carmen	Geography game	74.95
Where in Time is Carmen	Teaches history and geography	79.95
Where in USA is Carmen	Geography game	84.95
Where in World is Carmen	Geography game	74.95
Word Perfect 5 Get Start.	Tutorial system	129.95

Prices subject to change without notification.

Getting into Text Editors - QED1

by Andrew Leniart

I HAVE PLAYED around with a few text editors available in the public domain, and never went any further with them than just that, playing around. I like an easy to use type editor which doesn't require me to memorize its functions and one that has all the features which I have come to enjoy so much on the Amiga.

Features like pull down menus, the ability to position the cursor with the mouse, keyboard shortcuts and word wrap etc. This being the case, whenever I wanted to write or edit any text files other than my startup-sequence, out would come my word processor to do the job, as it has all those features. Until now that is!

The *QED Amiga Text Editor* by Darren M. Greenwald is just the thing which I have been looking for. This little beauty has nearly all the power of an average word processor, without any of the hassles! It will operate from any disk, takes a fraction of the time to load and will format your text in any which way you choose. It even has a print feature built in.

Naturally, if what you want to do is write a fancy letter with various font styles and perhaps import some graphics into the work, then you wouldn't be happy using this type of text editor. However, if what you are after is something to write straight ASCII text files or programs with, then I don't know of a better choice than this.

Compared with ED

● To really appreciate the power of this little beast, what you need to do is compare it with some similar efforts. The PD ones are all too numerous to discuss here, so let's compare

it with one which we all have on our WB disk, "ED". (That's if you haven't deleted it yet to make space on your disk!) Anyway, Commodore supplied all users with two text editors which normally reside in the "c" directory, those being *ED* and *EDIT*.

I have never really been able to come to terms with how *Edit* works, but I did manage after some considerable time, to figure out the basic principles of *ED*. What *ED* has been designed to do as I understand it, is to edit and/or create text files which when saved, are saved as straight ASCII text files. The usage for this type of editor varies from creating batch files such as a startup-sequence to editing or creating actual programs. Any similarities between *ED* and *QED* end about there!

When working with *ED*, the user is in what I consider to be a user unfriendly environment. There is no on-line help, the mouse is not active and there are no pull down menus with which to select functions. All functions are performed using the keyboard and if you happen to forget which keys do what, the only way you have of reminding yourself is to look through the manual. Also, should you need a printout of your work at any time, you need to exit the editor and go through the motions in CLI to achieve your goal.

QED

● Now let's compare that with *QED*. On the first point they stand the same, but there is a difference. Most *ED* users would, in my opinion, frequently use an on-line help feature if it was there. While working with *QED* however, the setup is such that the need for on-line help is not so great. The mouse is active and

can be used to position the cursor anywhere on the page as required. You can also use the mouse to scroll through a document up and down as well as side to side.

As *QED* has pull down menus, the mouse can also be used to activate any of the many capabilities of *QED*. All of the menu items have keyboard shortcuts available for them, and if you happen to forget which keys to press, all you need do is activate the menu bar to remind yourself! Should you need a printout of your work, select 'print' and you have it. Taking all the above into consideration, I don't think that many would argue the point of which is the better editor in *ED*'s favour.

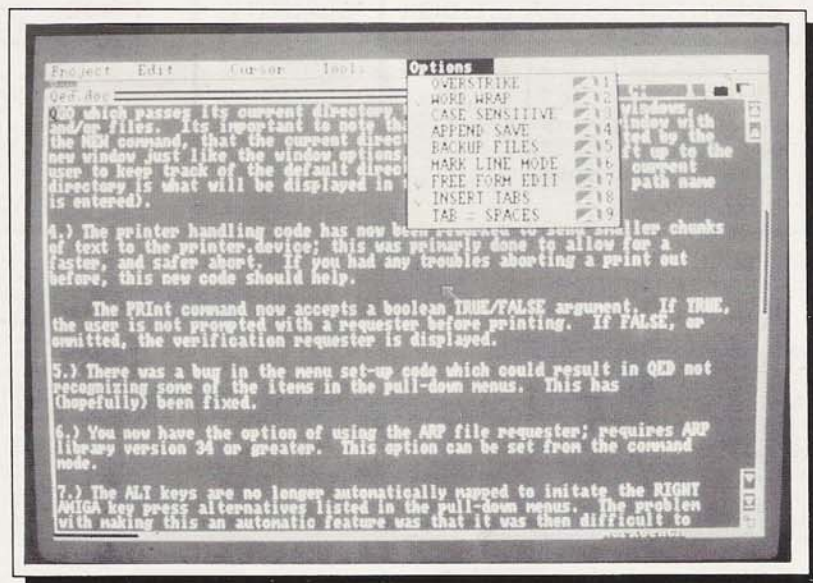
The features described above merely scrape the surface in explaining the power that you have at your finger tips when working on text with *QED*. I have made no mention of the way you can work on several text files at the same time by opening more than one window from within the program, or of how you can load various text files by means of the very familiar file requesters. Editing the files you are working on is a breeze with the cut and paste set up *QED* has that works on the same principals as word processors do.

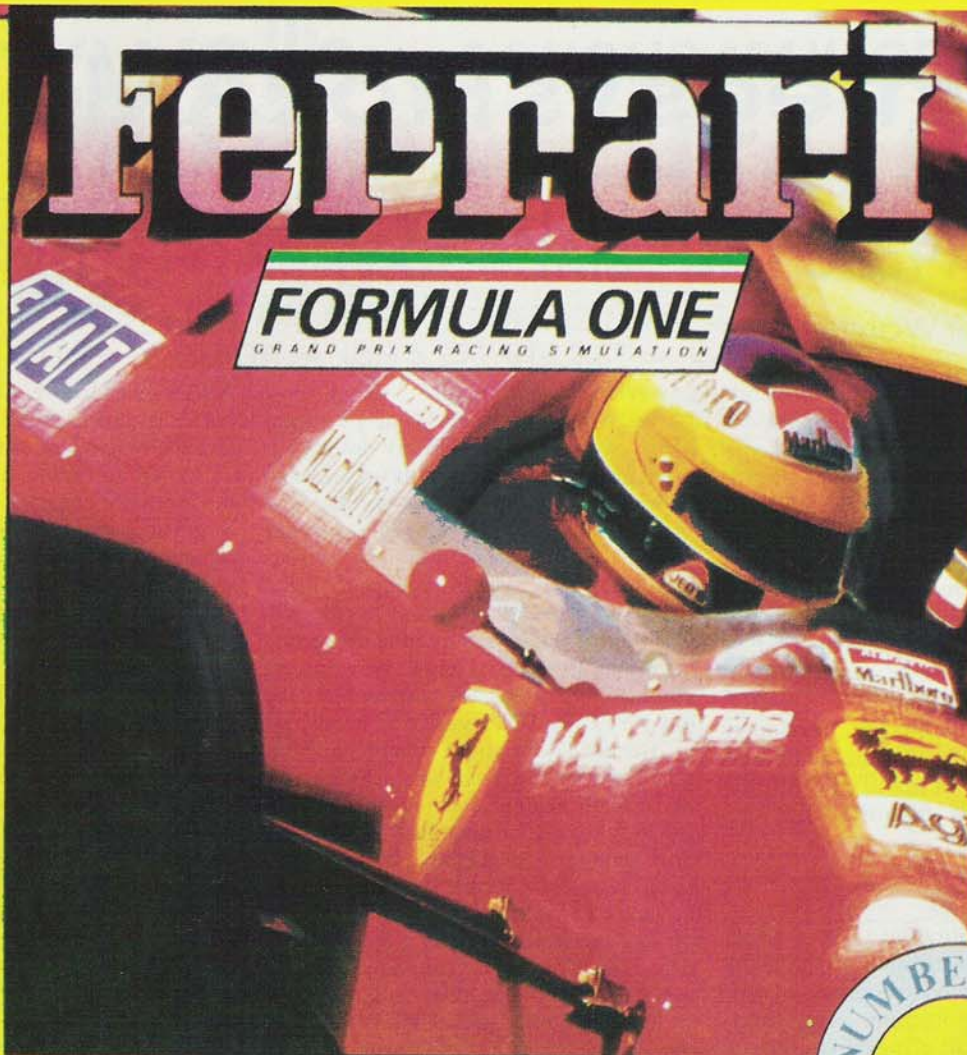
You can delete words or whole lines at the touch of two keys, and should you accidentally delete something you didn't want to, then there is even an *UnDelete* feature there to get you out of trouble. Other features include Word Wrap, Overstrike mode, search and replace words, Tab settings, Screen color options, Right margin set and insert modes. And the list goes on...

To fully explain what *QED* has to offer would require much more time and space than is available in this review. Detailed documentation on the program's capabilities is given by the author and are on the disk with *QED*. I obtained my copy from Megadisc on the Amiga #23 utilities disk, and have not looked back yet. As a matter of fact, I liked it so much that I now do all my writing using *QED*, and only use my word processor to check spelling in long articles etc. So do yourself a favour and check this one out. You won't be disappointed!

Where to get yourself a swag of text editors!

● Since these things are largely a matter of personal taste and peculiar editing requirements, Andrew Leniart has assembled a collection of all the best Public Domain text editors onto one disk. The disk includes a couple of spell checkers, a word count utility and a good cross section of all the better text editors complete with the usual on-disk-docs. To get a copy see the Prime Artifex ad in this issue or order over the phone on (02) 817 0011. All our special theme disks are \$8.95 including postage. Standard PD disks such as Fred Fish or Amicus disks are also available.





Richard Knaus



ELECTRONIC ARTS®

Available from leading computer stores

Dealer enquiries contact
Entertainment & Computer Products
Ph: (075) 963 488 Fax: (075) 963 512

ECP
Entertaining
Australia

Now available
for the C64!

Minimegs vs ProRAM

Expanding your A500's memory

by Peter Ward

THERE IS NOTHING more frustrating than after having painstakingly developed a complex *Deluxe Paint III* animation, *Videoscape 3D* motion file or *Sculpt 4D* scene, to have your Amiga 500 blink at you and say "NOT ENOUGH MEMORY FOR REQUIRED OPERATION". Trying to reduce the complexity or duration of your creations is one solution, and not all that long ago up-grading to an Amiga 2000 was yet another expensive alternative.

Fortunately third party developers have realized the potential of the humble Amiga 500 and both MAST and Imtronics have produced expansion modules for the Amiga 500.

ProRam 1.8

The Imtronics ProRam 1.8 comes supplied with xeroxed instructions, and consists of two circuit boards plus a disable cable-switch combination. For users wishing to add half a megabyte only to their A500, installation is simple. The ProRam 1.8 simply plugs into the A501 expansion slot situated on the underside of the computer. Additional expansion

however is more difficult.

To install either 1.0, 1.5 or 1.8 megabytes of additional memory into your A500 using ProRam 1.8, you will need to open up the case of your Amiga. The manual does state that this will void your warranty, but having done so, it takes you through the necessary steps to install the memory board. The first hurdle you will then strike is "remove the six screws from the case of the Amiga". Now in case you haven't noticed, the case screws used in your Amiga 500 have "Torx" heads.

I don't know about where you live, but Torx screwdrivers are as scarce as hen's teeth around Sydney-town to say the very least! Fortunately I picked up a Torx screwdriver set from a Sears department store on a recent trip to the USA, however I would not recommend jetting off to America just to buy a \$5.95 screwdriver set. I'm told a 2mm allen key is a much cheaper alternative.

Having finally gained access to the inner workings of your A500, you are then instructed to ever-so-gently remove the Gary chip on the motherboard, and insert the Gary adapter board of the ProRam 1.8. The main memory board goes in the

A501 slot, as before, with the user installing additional 256K memory chips to populate the board to the required level.

When installing any component on the motherboard of any computer it pays to ground yourself, computer and tools, as any static charge could easily "Zap" critical and sometimes very expensive components. This important note was not mentioned with the ProRam instructions.

Using the ProRam 1.8 does leave your Amiga 500's expansion bus free for hard disk installation, a feature I rather like. The presence of a disable switch also allows the board to be used with older games and software which does not support expanded memory. The user can also easily populate the board up to its maximum of 1.8 megabytes by simply plugging additional ram chips.

There are however some drawbacks with the ProRam 1.8 board. Firstly it does not support the new Fattest Agnus, so you will not be able to address one megabyte of chip ram. Also 1.0 and 1.5 megabyte populations will not run under kickstart 1.2, with the only fix being to use version 1.3, and as stated before, you will have to void your computer's warranty to install the board.

Minimegs

Memory And Storage Technology, based in Sydney, have produced the Minimegs series of memory expansion for use in either A500 or A1000 machines. While comprehensive instructions are given, installation is very simple. Turn your Amiga off, plug the Minimegs into the expansion bus on the left hand side of the computer, then power on. Simple, neat and efficient, just how it should be!

The board "auto-configures" - simply put, your A500 will automatically recognize the presence of additional memory. If you are handy with a soldering iron, it is possible to populate the board yourself, MAST discourage this and for a small fee, will further populate the 1/2 and one megabyte models should you wish to add more memory at a later date.



The unit tested was the Minimegs 2 megabyte board, and proved fully compatible with the A501 module giving a system total memory of 3 megabytes.

The acid test with the Minimegs came when I reconfigured my A500 to access one megabyte of chip ram: would it be supported? I ran *Deluxe Paint III*, *Sculpt 4D*, *Photon 2.0*, *Deluxe Productions*, *Videoscape 3D*, *Audiomaster* and just about every every other chip ram sensitive program I could find, with no problems at all. Hi-res, PAL overscanned, 16 and 4096 colour animations were no problem. On the down side, the Minimegs does take up the expansion bus of the A500, so only hard disks which use either the parallel port or which have a bus "pass through" can be used.

Despite this I preferred the Minimegs over the ProRam 1.8 as it allowed a larger total memory expansion (3 megs compared to 2.3) for the A500, was easier to install, and supports one meg of chip ram.

Whatever unit you may eventually

choose, having those extra megabytes makes a world of difference, transforming the Amiga 500 from a "games" machine to a real graphics powerhouse.

Minimegs from **MAST** (02) 281 7411,

RRP \$499 for 2 megabytes fully populated for both the A500 and the A1000.

ProRam from **Power Peripherals** (03) 369 7020, RRP \$599 fully populated with 2 megabytes. □



BREAKING THE PRICE BARRIER

*AMIGA 1 MEG memory boards
dramatically reduced*

\$ 2 9 9

Fully populated
with 1MB of AUTOCONFIGured
FAST RAM for your 500 or 1000
computer.

Two boards in One!
FREE Bonus offer, XEL hardDrive
interface included, save \$200 off
the price of a complete hardDrive.

HardDrive Options

* 30 Meg	\$899
* 40 Meg	\$1099
* 60 Meg	\$1299
* 105 Meg	\$1799
* Hard drive Kits	\$195

XEL Pty Ltd G.P.O. BOX 121 Adelaide. 5001
Phone 08-231 7396 or 018-824648 anytime.

M.A.S.T GOES DIRECT- NO DEALERS GREAT PRODUCTS AT GREAT PRICES

Memory And Storage Technology Pty Ltd is proudly Australian owned, selling a variety of Australian designed Amiga peripherals. We have opened our own offices in the USA, United Kingdom and West Germany. Our small company started in the lounge of our house in 1987, and has grown to be one of the top four Amiga peripheral suppliers to the US market (we are the leading supplier of Amiga compatible external floppy drives). Unfortunately Australian dealers have been less than supportive to our company. When we attended the PC90 show in Sydney half the customers thought that we were a US based company. To the point, we are fed up with this situation and are implementing a policy of direct selling, either through our retail outlet Computer Discounts (Aust) Pty Ltd that handles tax inclusive prices on most MAST products, or through MAST (ex tax, government orders and printer sales). There is no longer any distinction between dealer and end user - the only discounts apply to quantity purchasing and apply equally to anyone.

MAST IS INTERESTED IN MARKETING THROUGH OUR INTERNATIONAL OUTLETS, SUITABLE HARDWARE AND SOFTWARE DESIGNED BY LOCAL DEVELOPERS.

FLOPPY DISK DRIVES:

A2000 INTERNAL \$149

This quiet, low profile floppy drive is manufactured by Fujitsu - Japan's leading computer company. The drive includes a **FRONT BEZEL OF THE CORRECT SIZE FOR YOUR A2000**, and MAST proprietary **NO CLICK LOGIC**. GREAT VALUE.

ENHANCED UNIDRIVE \$199

We call it the **Ultimate Drive**. This external 3.5" floppy drive includes a **DIGITAL TRACK DISPLAY** (great for watching how your files are fragmented over the disk). The DTD looks great, however the really important feature of this product is the built in **HARDWARE VIRUS PROTECTOR**. The Enhanced Unidrive has three switches on the back panel - deselect, write protect track zero, and write protect all tracks. It is impossible for a write to occur when these switches are set. A front panel LED indicates the status of the write protect switch. Another led indicates any write activity to track zero, and a third any write activity to the remainder of the disk. The status of the latter two led's is latched - no missing even the fastest virus. Naturally the Enhanced Unidrive includes a quality Fujitsu mechanism, pass thru, and is so low power, that ventilation slots are not required. It also includes our new custom extruded case that matches the new Tiny Tiger. **This is great value considering that many no frills drive are priced at or above the Enhanced Uni. PLEASE NOTE THAT EXISTING UNIDRIVE OWNERS MAY UPGRADE TO AN ENHANCED UNIDRIVE FOR \$59.95 (we use your existing drive)**

UNIDRIVE \$159

The Unidrive is the MAST standard external floppy drive. A quality Fujitsu mechanism in a streamlined case makes this product the choice of many. Its new extruded case and the addition of pass thru will entice even more customers. This product can be upgraded in the future to our Enhanced Unidrive.

TWINDRIVE \$299

If you like the Unidrive, then why not buy two - all in one case. Not only that, a twindrive costs less than two unidrives. For a small footprint multiple external drive system, Twindrive is the solution. **Unbeatable value at our new NO DEALER PRICES.**

AMIGATOSH \$299

This small footprint unit is a fully Macintosh compatible disk drive - ideal for use with A-Max. The mechanism is manufactured by Fujitsu and includes auto eject.

HARD DRIVES:

FIREBALL-A2000 SCSI DRIVE SYSTEM

Fireball is an A2000 compatible SCSI Controller. Another great Aussie design, this product is a true DMA controller. Unlike programmed I/O controllers that appear to perform well under Diskperf (that disables multitasking and is a very poor indication of real system performance), Fireball keeps on going on. With the speed to handle the most demanding of tasks, Fireball

features led's to indicate DMA activity, autoconfigure and system access. Fireball can also be configured to operate in several different DMA modes. It is compatible with overscan mode. Fireball is faster than the GVP card.

Fireball - Controller Only \$299. The hard card is available by itself however it is most commonly purchased with the drive included. Fireball can have the drive mounted on the card in a H card arrangement, or with the drive separately mounted in the computer.

**Fireball 45 meg \$999 Fireball 90 meg \$1599
Fireball 136 meg \$1899 Fireball 182 meg \$2249**

TINY TIGER - EXTERNAL SCSI DRIVE FOR ALL AMIGAS

Tiny Tiger is a SCSI drive in an external case - and what a case! The front panel of TT features a variety of status indicators, including current SCSI address. DIP switches allow the drive to be easily configured. TT will plug into any SCSI interface including Fireball, The Infinity Machine and the MAST Portable Interface. TT also plugs into a Macintosh or PC (requires scsi interface). It is available with quality Fujitsu High Performance Drives (2 year warranty, optional 5 year), or with quality Conner drives (slightly lower performance, 1 year warranty). **Every Tiny Tiger sold for an Amiga includes our proprietary Portable SCSI Interface - plugs into any Amiga, makes a great portable drive system when used with TT.**

**20 meg \$799 45 meg \$1099 90 meg \$1599 100meg \$1499
136 meg \$1949 182 meg \$2299**

SPECIAL OFFER- PURCHASE A TINY TIGER AND WE WILL SELL YOU OUR 2 MEGABYTE MINIMEGS MODULE FOR THE SUPER LOW PRICE OF \$399. MINIMEGS MUST BE PURCHASED WITHIN 90 DAYS OF YOUR TT PURCHASE. IF YOU ARE THINKING OF AN A590, MAYBE YOU WOULD LIKE TO RECONSIDER.

MINIMEGS - 2 MEG RAM \$499 (A500 & A1000 versions)

MICROMEGS - A501 CLONE \$159

MAXIMEGS- 2 meg \$449 2.3meg \$499. This unit plugs into the A501 connector. Includes clock. Most importantly 2 meg of the available 2.3 meg can be used as display RAM - yes it can be accessed by the blitter - imagine the possibilities, 2.5 meg of graphics memory. Call for a data sheet on this intelligent, very innovative memory product.

OCTOPLUS- 8 meg ram for the A2000, pop 2 meg \$499

SOFTWARE: 10% GUARANTEE - SEE BELOW

Computer Discounts has access to a variety of software that we source directly from our European and USA offices. **WE WILL SUPPLY ANY SOFTWARE TITLE THAT IS A NORMAL STOCK ITEM FOR AT LEAST 10% BELOW ANY PRICE ADVERTISED IN THIS ISSUE OF THE MAGAZINE.** This offer does not apply to dealers or distributors. We also reserve the right to limit the offer to one item per title per customer. **WE WANT YOUR BUSINESS.** Our software offer is valid until 11th June 1990 (it will be reviewed on a month to month basis). Our guaranteed offer is based on prices advertised by competitors and made available to anyone in the public on an unrestricted basis, it does not apply to prices that are part of a bundle. □

3.5" DS DD DISKETTES \$1.30 qty 100 \$1.40 qty 50 \$1.50 qty 10

COMPUTER DISCOUNTS (AUST) PTY LTD 19-21 BUCKLAND ST CHIPPENDALE 2008
POSTAL ADDRESS: BOX 249 BROADWAY 2007. TEL (02) 281 7411 FAX (02) 281 7414

TOMORROW'S PERIPHERALS

TODAY...



TINY TIGER

0, 45, 90, 136 AND 180 MEG
EXTERNAL SCSI HARD DRIVES

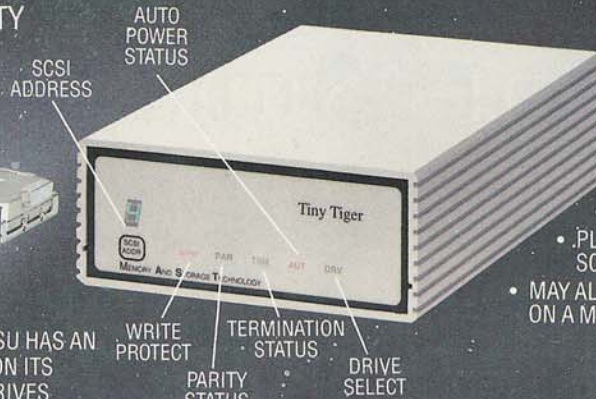
OPTIONAL
5 YEAR WARRANTY

SCSI LETS SEVEN
DEVICES CONNECT
TO YOUR COMPUTER
COMING:

- SYQUEST 45 MEG REMOVABLE
- HIGH CAPACITY 5 1/4"
- SCSI RAM DISK
- SCSI FRAME GRABBER

QUALITY FUJITSU
MECHANISM

REMEMBER — FUJITSU HAS AN
MTBF OF > 130,000 ON ITS
HIGHER CAPACITY DRIVES
WITH REAL ACCESS TIME
OF 12 MSEC.



- FAST ACCESS
- CACHE MEMORY
- HIGH MTBF
- LOW POWER
- PLUGS INTO ANY SCSI INTERFACE
- MAY ALSO BE USED ON A MACINTOSH®*

SCSI INTERFACES

FIREBALL

A2000 SCSI INTERFACE

- AUTOBOOT
- TRUE DMA
- HIGH SPEED



MAST SCSI INTERFACES FOR A500 AND A1000
INCLUDE:

- PARALLEL SCSI ADAPTER — IDEAL FOR A PORTABLE SCSI SYSTEM.
- FIREBALL JUNIOR — A SCREAMER: AUTOBOOTS
- THE INFINITY MACHINE — 68030 ACCELERATOR

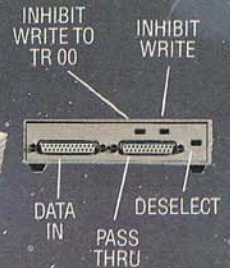
FLOPPY DRIVES

ENHANCED UNIDRIVE

INCLUDES
TRACK DISPLAY
AND
VIRUS DETERRENT



DIGITAL TRACK
DISPLAY TK00
WRITE INDICATOR WRITE
INDICATOR



OTHER FINE MAST FLOPPY DRIVES
INCLUDE:

- UNIDRIVE (NOW WITH PASS THRU)
- TWINDRIVE (ENHANCED VERSION SOON)
- A2000 INTERNAL
- EXTERNAL 5 1/4" (SOON INCLUDES ENHANCED FEATURES)
- AMIGATOSH + — A FULLY MAC®* COMPATIBLE DRIVE THAT PLUGS DIRECTLY INTO A MAC OR AMIGA*

*REGISTERED TRADEMARK OF APPLE COMPUTER

MEMORIES

MINIMEGS



2 MEG EXTERNAL FAST RAM

OTHER MEMORY PRODUCTS INCLUDE:

- OCTO-PLUS — 8 MEG MEMORY FOR A2000
- MICROMECS — THE SENSIBLE LOW POWER A500 CLONE
- PICOMECS — MEMORY EXPANSION FOR THE INFINITY MACHINE

NEW PRODUCT

MAXIMEGS

2 MEG RAM

PLUGS INTO A501 CONNECTOR
PROVIDES 2.5 MEG OF
DISPLAY MEMORY!!

GREAT FOR ANIMATION.
WE OFFER A GREAT TRADE-IN
ON A501 AND CLONES!!

COMING SOON:

THE INFINITY MACHINE

68030 16-50MHz
32 BIT RAM 1-64 MEGABYTES
68882 MATH COPROCESSOR
HIGH SPEED SCSI (AUTOBOOTS)
A500 A1000

M.A.S.T. TECHNICAL EXCELLENCE
MEMORY AND STORAGE TECHNOLOGY

19-21 BUCKLAND ST, CHIPPENDALE, NSW 2008 TEL (02) 281 7411 FAX (02) 281 7414
USA TEL (702) 359-0444 W. GERMANY - CALL UK - CALL

Skylarking with Distant Suns

by Peter J. Ward



I MUST CONFESS I have two main vices: computers and astronomy. I grappled with spherical geometry and Amiga Basic, but, until the release of a program called *Galileo 2.0*, these two interests did not have an easy co-existence. I considered myself as one of the lucky ones having a copy of *Galileo 2.0*, as the program eventually became extinct on dealers' shelves.

While looking over the contents of a BBS I discovered a public domain program called *Geotime* by Mike Smithwick, the man who wrote *Galileo*. A poster attached to *Geotime* had an address, so I decided to send a letter to the USA. Within ten days I was given a reply to why the demise of *Galileo*. PI-RATES TAKE NOTE OF THE FOLLOWING! Simply put, the publisher went broke!



8:31
ra
60:52
dec

ZOOM



180

rate: 0x

Sep 11, 1989

1:00 am

planetarium

Menu

I am pleased to report however that what would have been *Galileo 3.0* has now quantum mechanically tunneled through to our universe to be called *Distant Suns*. Published by Virtual Reality, it is THE astronomy program for the Amiga. It comes in a neatly packaged 3.5" floppy disk with a very thorough manual, consisting of 64 pages of text plus seven Appendices.

The program has copy protection in the form of a "Key Word" from the manual, so that it may be easily backed-up or installed onto a hard disk. I first used this

"Perhaps the best astronomy program available on any computer"

program during its early days as *Galileo* version 1.0, and frankly was not all that impressed, due to slow screen updates and poor accuracy. I am pleased to say however, that *Distant Suns* has ironed out many of the problems initially encountered and has made this program a joy to use and for general planning of a night's observations at the telescope.

Why limit use of the program to general planning of a night's observations? As with all software of this kind a "television picture" of the night sky can't really compare with the real thing. Another problem is that despite *Distant Suns* being, in terms of its graphics, perhaps the best Astronomy program available on any personal computer, it still falls short of being a serious observational tool for use prior to a night at the telescope due to having a database of only approximately 2200 objects.

To alleviate this problem extra data disks are available from Virtual Reality. The *Yale Bright Star Catalog* for \$US18.00 gives you 9100 stars. The *SkyMap Catalog* requires 1 megabyte of memory and 1.35 Megs of Hard Disk space (\$US25.00) and brings you up to 20,000 stars but still not enough to create a serious chart to be used alongside a telescope. Now if you are still not convinced, *Sky Atlas 2000.0* has about 43,000 stars with 2,500 deep sky objects and *Uranometria 2000.0* has 332,556 stars alone! Despite such limitations, an extra Image Disk (\$US30.00) is also available. The latter makes images of 215 different galaxies and nebulae access-

ible to users of *Distant Suns*, just the thing for cloudy nights!

The manual carefully guides novice users through the various program features, and also manages to give a good introduction to Astronomy and Telescopes in the process. After setting the date, time and location of the observer, the program gives good accuracy for both planetary and stellar positions, as well as rise and set times of the Sun and Moon.

Calculations are based on Duffet-Smith's "Practical Astronomy with your Calculator" and "Astronomical Formulae for Calculators" by Jean Meeus. These formulae give reasonable accuracy within about 400 years from the present. Higher accuracies in future releases are hinted at in the manual; for the time being however, speed of computation has been deemed as being the over-riding factor.

In addition to giving a view of the constellations with fields of view varying from 15 to 180 degrees, *Distant Suns* allows the user to view the phases of Mercury and Venus, the rings of Saturn, phases of the moon and spots on the sun by using a "telescope" option. There is also the ability to depict retrograde motion of the planets and, with appropriate use of observer location and time, viewing of Solar eclipses. There is also a very handy nightly summary page entitled "What's Up?". This gives the rise and set times of all the planets, sun and moon, the phase of the moon, the current Julian

Date and the name and date of the next major meteor shower.

Some rather nice additional program features are fast screen refresh and user defined data, which allows the user to add additional information to the database such as a newly discovered comet or supernova. To illustrate the point, the program has several "user objects". Yet another feature is point and centre, which means that should you have a particular patch of sky, simply place the mouse pointer on that location, click the mouse, and the screen will be updated, centred around the new point.

Identify is a feature which allows you to place a set of crosshairs over an object of interest and have it identified. This last feature also has a print option, which I have found to be the most useful function of the program. By using it I print out a list of nebulae and galaxies which will be favorably placed during the evening with their respective Declination and Right ascension co-ordinates. Observations through my Meade 10 inch SCT are then a lot easier to plan being conveniently listed on one piece of paper.

Distant Suns allows multiple menu item selection and several viewing modes, including a "landscape" mode which places a local horizon on the starry sky. However, the program appears to only use a limited number of stars in this mode, which is a shame as "landscape" perhaps best helps a novice observer to identify a star against a known bearing on the real horizon. This mode is further enhanced by an additional menu item called "twilight" which simulates the ever darkening sky as the sun sets. Planetarium mode has access to the full database of 9100+ stars (when additional data disks are used), and can display declination and right ascension reference marks

against the sky as well as constellation outlines.

Distant Suns also has a feature which allows you to "look down" on the solar system on a particular date. This gives a diagram of the solar system with the planets in their respective orbits and positions for that date, with problems of scale being sorted out by only being able to select views of the inner, middle or outer solar system at any one time.

This mode can also be used with a tracking feature which shows how the positions of the planets change over a period one month before and after the specified date. The screen display can also be made to update the sky from zero to one hundred times the real time rate, thus allowing you to literally watch the night sky roll by, however, all other functions of the program are held up during updates, and this does become tiresome.

Where *Distant Suns* really excels is that you could consider it to be a "front end" to the Yale bright star catalog or SkyMap Catalog databases. With these extra data disks one can obtain information about the name of a star, whether the star is a variable, its B-V colour, the distance in light years, its magnitude and spectral class all in a matter of seconds.

The program does allow you to save any screen currently displayed as an IFF file, which can then be used in most third party graphics programs and hence the ability to add text to the display and print a star chart is indirectly available. Despite the memory constraints involved, I would have preferred to see the ability to directly print a star chart. *Distant Suns* thus used would be perfect for preparing a "star-hopping" finder chart for tracking down Messier or NGC objects - especially if a mirror reversed chart could be printed (read: not so subtle hint

for Version 2.0!).

Distant Suns for the Amiga, though not inexpensive (about \$80.00 locally), is certainly less than the cost of a good quality eyepiece. It is a very comprehensive astronomy program. While the planetarium display is limited to approximately 9100 objects for non hard disk users, one must remember that even this number requires one megabyte of memory to display, so that more stars would be prohibitive in both cost and computing time, given the current state of the art in home computer technology.

The program does give a good overview to the night sky and is a good supplement to a quality star chart, though not a replacement.

Galileo owners have not been forgotten. Post your original system disk to Mike Smithwick 25215 La Loma Drive, Los Altos Hills, CA 94022, USA, plus \$US17.50 and an upgrade to *Distant Suns* will be sent to you here "downunder".

Distant Suns is certainly great fun to use and comes well recommended to any amateur astronomer owning an Amiga.



Distant Suns, Virtual Reality

2341 Ganador Court
San Luis Obispo, CA 93401. U.S.A.

Locally:

Computermate

Telephone: (02) 457 8388

RRP \$79.95

PCM COMPUTERS

VDrive5.25	External 5.25" Floppy Disk Drives Drive Disable/ Write Protect/Pass-Thru	\$260	AMIGA 500	A500 with 1 Meg RAM, Philips hi-res color stereo monitor. Complete system	\$1510
RF302C	Ext.3.5" Floppy Disk Drives Drive Disable/Pass Thru	\$190	CM8833	Philips hi-res color stereo monitor	\$490
VDriveH66	66Meg hard disk drive - ST-506 64k buff FFFS/Ext Power/ Faster than GVP40Q. Formatted, Installed and ready to run	\$1150	A500	Monitor Stand - all steel	\$40
Impact-500	45Meg GVP Hard Disk Drive- 28mS SCSI Autoboot/Ext Power/ 4Meg mem slot	\$1450	A500	Monitor Stand/Drive Case in onewith 5.25" Floppy built-in	\$320
Impact-500	40Meg GVP Hard Disk Drive- 11mS SCSI Autoboot/Ext Power/ 4Meg mem slot	\$1600	A500	Monitor Stand/Drive Case in one with 3.5" Floppy built-in	\$300
Impact-2000	45Meg GVP Hard Disk Drive-28mS SCSI Autoboot/2Meg mem slot	\$1145	LQ-400	Epson LQ-400 24 pin hi-res mono printer	\$550
A500	Spirit 2Meg Insider with 2.0Meg	\$680	Genius	Genius Mouse. Replacement mouse with Microswitch buttons. No more false clicks	\$75
A500	Spirit 2Meg Insider with 0 K	\$380	StarCursor	Joystick - Australian made StarCursor is one of the best. Strong, responsive	\$50
A500	Half meg mem board	\$150	Pr'ter Cables	Printer cables to suit A500/A2000 or A1000	\$17
A1000	Spirit 1.5Meg Insider with1.5Meg	\$615	1.2/1.3ROM	Modification to allow you to run Kickstart 1.2 or Kickstart 1.3. Just flick the switch.	\$60
A2000	Microbotics 8Meg Expansion w/2Meg	\$680	Bootswitch	Modification to allow you to boot from an external drive. A must with a 5.25" ext	\$45
A2000	Microbotics 8Meg Expansion w/8Meg	\$1400	MemSwitch	Modification to allow you to switchoff any fastmem installed in your computer.	\$30
Disks	3.5" No Name DSDD full warranty/per 10	\$14.00			
Disks	5.25" No Name DSDD full warranty/per 10	\$5.50			

PO Box 70 Noble Park North VIC 3174 Fax or Ph. (03) 701-0343 ☆ 34 Kidman Court Thornlie WA 6108 Ph. (09) 459-0609
28 Ashton Rise Doncaster East VIC 3109 Fax or Ph. (03) 841-8889

512KB RAM EX

AMIGA 500 MEMORY EXPANDER

- **EXPANDS** the Amiga 500 memory to over 1 megabyte allowing the user to play some of the latest games with enhanced sound and graphics.
- **SIMPLE** to install, just plug it in.
- **REALTIME** clock/calendar with **NICAD** battery backup.
- **NEW ENABLE SWITCH** — this switch allows you to turn off the extra ram at your leisure. **NOTE:** Some games require the extra ram to be turned off otherwise they won't run.
- **COMPATIBLE** — fully compatible with the AMIGA 500.
- **VERY LOW** power consumption.
- **12 MONTHS GUARANTEE.**

This product has been built in Australia by Home Entertainment Suppliers Pty. Ltd., using the latest **state of the art** technology. Only the best local and overseas components have been used to give you a highly efficient and compact component.



Proudly made in AUSTRALIA by

**HOME ENTERTAINMENT
SUPPLIERS**



PTY LTD

UNIT 1/128 BONDS RD., RIVERWOOD, N.S.W. 2210

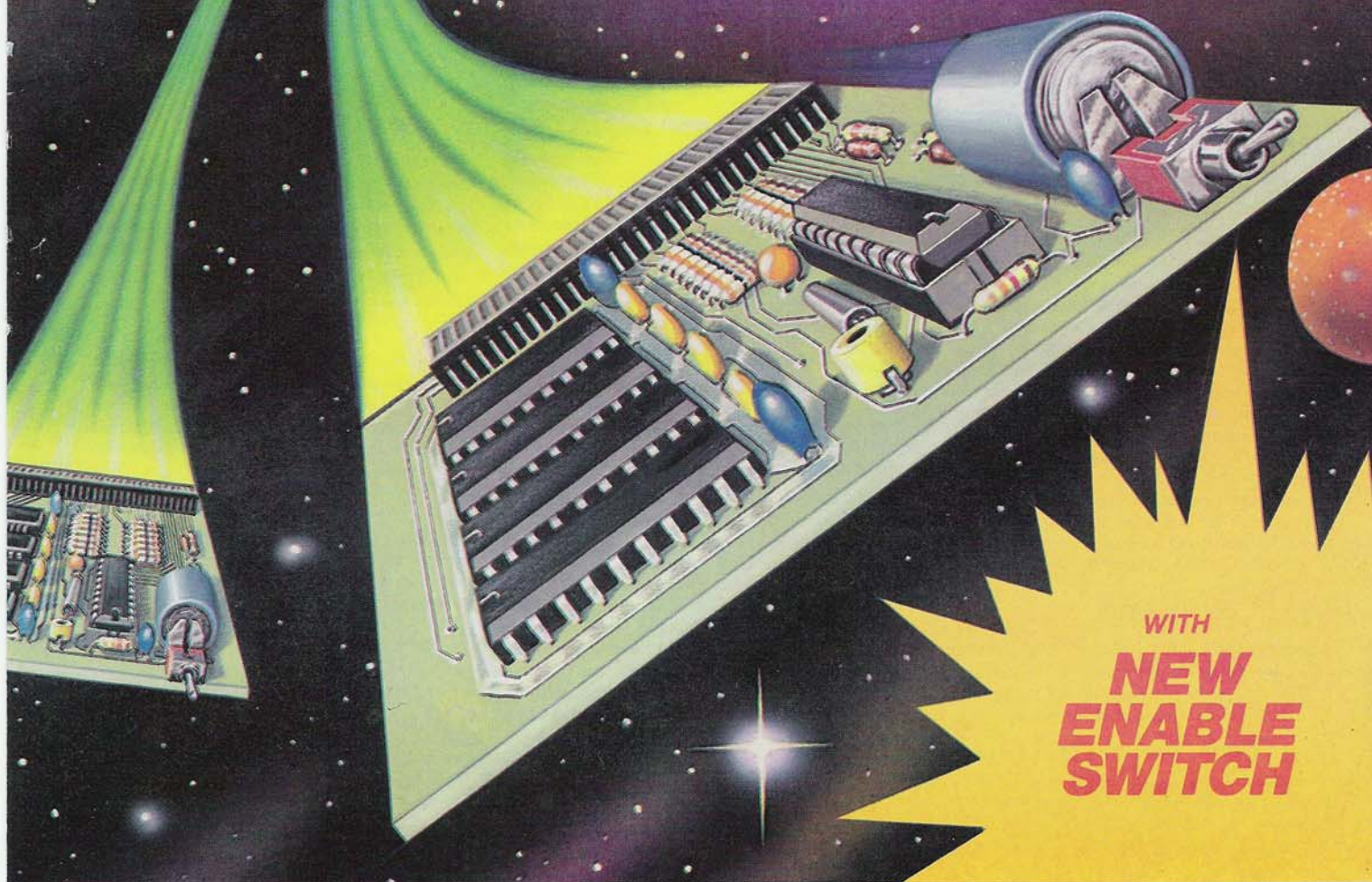
EXPANSION CARD

For Commodore Amiga 500

Clock/Calendar and Enable Switch



Always low prices...Always.



WITH
**NEW
ENABLE
SWITCH**

Coming to grips with the Amiga's CLI a tutorial for beginners

by Andrew Leniart

WELCOME TO OUR new on-going series of articles aimed at helping the beginner to understand and use the Amiga's Command Line Interface.

Many times I have read the pleas of people asking for help in various magazines and saying that no one seems to be catering for the utter beginner to the Amiga with clear and easy to understand explanations of the way it operates. But strange as it may seem, this type of thing seems to be one of the hardest things to write. However through these pages and over the following months, I will try to do my best to change that!

When you first boot up your Workbench at the hand prompt visible when the computer is first switched on, you end up in the very easy to use and user friendly environment of Workbench. Soon though, you discover that things don't always seem to work the way they're supposed to in Workbench. You might click on an early Fred Fish disk icon and find that the drive spins, a window opens and then ... nothing!

The reason that you don't see anything does not mean that the disk has nothing on it. On the contrary, the disk's fuel gauge verifies that the disk is chock-a-block with stuff. So where is it? Well, it is there, it's just that you can't see it from Workbench because there are no .info files (or Icons) attached to the programs within. To see these files we must use the Amiga's other form of communication being of course the CLI.

So what's the CLI then?

● The CLI or (Command Line Interface) is an alternative and much more powerful way to communicate with the Amiga than that of the Workbench. In order to use the CLI, you must first bring up a CLI window by double clicking the "Shell" icon from Workbench for 1.3 WB users, or the "CLI" icon which is located in the system drawer of the 1.2 version of your Workbench diskette.

Once you have done that, a window appears with a 1> prompt or similar, indicating that the machine is ready to accept your commands. Yes, you as the master and the Amiga as the slave, are now in a position to use just about any of the many capabilities which the Amiga has to offer. But first you must learn how to talk to the Amiga.

Computers have a lingo of their own and can't understand the simple English language as we know it. So typing in something like "Tell me what's on the disk I just put in the drive" would simply cause the Amiga to im-

mediately spit the dummy and throw back a "Unknown Command" statement at you in disgust.

So when you see the 1> prompt in the CLI, you now know that to communicate successfully with this machine, you must use the language it understands. This language consists of a number of Commands supplied with your work disk and which happen to live in the C directory of your Workbench diskette. Get the drift? Don't worry too much if you're still a bit confused, we'll be going into this in more depth a little later on.

Computer commands

● Computer language consists of a number of pre-defined commands programmed by the makers of the Amiga for the purpose of allowing you to control the machine and make it do what YOU want it to do. Let's have a look at those commands now and see what they look like.

If you are not already in a CLI, open one up now and re-size it to make it as large as possible by using the sizing gadget found at the bottom right corner of its window. Now type the following commands exactly as shown and pressing return at the end of each line:

```
Cd c
Dir
```

If you followed the instructions correctly, you should have ended up with a screen full of file names which are in fact all of the commands available to you with which to manipulate the Amiga. Look through them closely and you'll find that the two we used, Cd and Dir will also be there. So what do they all mean?

CD

● Well, the two in our example perform the following functions.

Cd changes the current directory to the "c" directory of our work disk. In other words, "Cd c" tells the Amiga to change the current directory which we are in and make directory "c" the current directory. Note also that Cd is the command we use to make any directory the current directory on any disk.

So if we wanted to change to a directory named "Utilities" which was on a disk we had in drive DF1: then we would simply need to specify the PATH we wanted the Amiga to follow in order to find this directory. (ie. Cd DF1:Utilities) This would effectively make the Utilities directory in DF1: the current directo-

ry. To get back to the Root (or main) directory which we started in, all we would need do is type CD DF0: and we would be there.

Note that to find out which directory you are in at any time, all you need do is type Cd on its own. So if you typed Cd directly after our example above, the system would respond with the current directory at that time (ie. Workbench:c).

There are also various short cuts available in AmigaDOS which enable us to achieve exactly the same thing by using slash characters such as Cd / which effectively moves you back one step towards the root directory, or Cd : which takes you straight back to the root directory you started from. However to avoid confusion at this early stage, these will be explained in more detail in a later instalment of this series.

DIR

● The Dir command instructs the Amiga to display on screen the contents of the directory we are currently in. There are also many other Options available to us when using this command. Try this:-

First get back to the root directory of your workbench disk by issuing the command < Cd DF0: > Then type < Dir opt a >. The Opt a (or Option a) qualifier tells the Amiga to display ALL of the files and directories in the current disk. You can view every directory and every file on the disk with this option.

However this option also causes the screen to fill and scroll very quickly making it hard to read everything. This is easily solved by pressing any key on the keyboard, which will effectively stop the screen from scrolling. All you need do to re-commence scrolling is to press the backspace key when you are ready.

Another option is < Dir opt d > which results in the Amiga displaying only the directories available on a given disk. So as you can see, each command in AmigaDOS has various potentials and options which you can use to your advantage.

To get a list of all the options available to you for any Dos command, all you need do is type the command followed by a question mark. For example < Dir ? > would make the Amiga display the argument template for dir command which would look something like this:-

```
Dir,OPT/k,SIZE/s,INTER/s,HILITE/s,FILES/
s,DIRS/s,ALL/s:
```

on a 1.3 Workbench system disk.

So now you should have a general idea of

(continued on page 40)

Your Software Warehouse

AMIGA

-- GAMES -- ARCADE

ALTERED BEAST	59.00
BARBARIAN II	59.00
BATMAN 'MOVIE'	59.00
BATTLEHAWKS	59.00
BUDOKAN	49.50
CABAL	59.00
CADAVER	59.00
CHASE H.Q.	59.00
DRAGON'S LAIR II	59.00
DRAKKHEN	59.00
FALLEN ANGEL	59.00
GHOSTBUSTERS II	59.00
GHOLLS & GHOSTS	59.00
HARD DRIVIN'	59.00
IT CAME FROM THE DESERT	59.00
LOST PATROL	59.00
NZ STORY	59.00
POWERDRIFT	59.00
POWERDROME	59.00
RAINBOW ISLANDS	49.00
RICK DANGEROUS	49.00
SHADOW OF THE BEAST	79.00
SHUFFLEP'K CAFE	49.00
SILKWORM	49.00
SKWEEK	49.00
SPACE ACE	89.00
SPACE ROGUE	59.00
STRIDER	59.00
STUNT CAR RACER	59.00
TEST DRIVE II	49.00
T.D. II DISKS	39.00
XENON 2	59.00

STRATEGY

688 ATTACK SUB	49.50
ARMADA	49.00
BAL. OF POWER	59.00
BORODINO	59.00
CONFLICT EUROPE	59.00
FIRE BRIGADE	49.00
FULL METAL PLANETTE	59.50
GENGHIS KHAN	79.00
MIDWINTER	59.50
NORTH & SOUTH	59.00
OMEGA	69.00
POPULOUS	45.00
POPULOUS DATA	39.00
SIM CITY	79.00
SIM CITY TERRAIN	39.00

TAROT MASTER WATERLOO

SPORTS

3D POOL	49.00
FIGHTING SOCCER	59.00
G. NORMAN GOLF	59.00
HONDA RVF	49.00
J. NICKLAUS GOLF	59.00
KICK OFF PLYR/MGR	49.50
KICK OFF EXP.	39.00
OMNI-PLAY	59.00
BASKETBALL	59.00
OMNI-PLAY	59.00
HORSE RACING	59.00
PRO TENNIS	59.00
RALLY CROSS	49.00
TV SP. BASKETBALL	69.00
TV SP. FOOTBALL	69.00

OOZE	59.00
SCAPEGHOST	59.00
SHOGUN	49.00
SPACE QUEST I/II	49.00
SPACE QUEST III	49.00
SWORDS TWILIGHT	49.00
SWORDS T. HINTS	25.00
UMS	64.00
UMS SCENARIOS	29.00
UNTOUCHABLES	59.00

FLIGHT SIMS

BOMBER	49.50
F16 COMBAT PILOT	49.50
F29 RETALIATOR	59.00
FALCON	54.00
FALCON MISSION	49.00
THEIR FINEST	69.00
HOUR - B. OF. B.	69.50

EXCELLENCE	289.00
KIND WORDS II	99.00
PEN PAL	199.00
SCRIBBLE PLAT.	99.00
TRANSCRIPT	99.00

DATA BASE

DATA RETRIEVE	99.00
DATA RET. PRO	199.00
SUPERBASE	79.00
SUPERBASE PRO	299.00

--- DTP ---

CITY DESK II	249.00
PAGESETTER II	199.00
PAGESTREAM	259.00
PAGESTR. FONTS	59.00
PRO PAGE 1.3	449.00

LANGUAGE

AREXX	74.00
ASSEMBRO	159.00
BENCH. MOD-2	289.00
CAN DO	199.00
DEVPACK 2.0	159.00
GFA BASIC V3.0	179.00
HI-SOFT BASIC PRO	229.00
LATTICE C V5.0	439.00

- OTHERS -

3.5in SLIMLINE DISK	219.00
DUST COVER A500	22.00
GENIUS MOUSE	59.00
IMG SCAN	299.00
MOUSE PAD	9.00
M4 MOUSE	75.00
A500 0.5M MEMORY	229.00
SAFE SKIN	45.00

- MUSIC -

AMAS	229.00
DR T'S COPY DTP	449.00
INSTANT MUSIC	49.00
MASTER TRACKS	549.00
MUSIC X	399.00
SONIX	99.00

- UTILITIES -

AMI ALIGNM'T KIT	74.00
B.A.D.	75.00
DISK MECHANIC	119.00
PIXEL SCRIPT	199.00
PROJECT D	74.00
XCOPY	59.00

EDUCATION (Over 85 Titles)

DESIGNASaurus	74.00
FUN SCHOOL 2	49.00
INTELLITYPE	49.00
MAVIS BEACON	79.00
WHERE IN WORLD	69.00
IS CARMEN SD	79.00
YOUR FAMILY TREE	79.00

ACCESSORIES

Please note that we now charge freight on all NON-SOFTWARE items. BUT LOOK WHAT WE'VE DONE TO THE PRICES!!!

Call for details.

- DISKS - 3.5"

MEMOREX	22.00
PRECISION	21.00
PREMIER	19.00
SKC	22.00
XIDEX	26.00

DISK BOXES

3.5" 40	14.00
3.5" 80	19.00
3.5" 120	22.00

- BOOKS -

Over 100 titles for the AMIGA and the C64/128, including the complete ABACUS range for the AMIGA.

- FREE POSTAGE of software anywhere in Australia
 - FREE PRICELISTS
 - FRIENDLY, KNOWLEDGABLE STAFF
 - HUGE RANGE OF PRODUCTS for AMIGA, C64/128 and IBM PC
 - GIFT VOUCHERS for any amount, any occasion
 - STD FREE 008 Orders Only line - business hours
 - COMPLETE ONE-STOP AMIGA Shop
 - SPECIALS, "BARGAIN BIN", DISCOUNTS
- There's always ways to save at INTERLINK —

FOR ALL ORDERS OF AMIGA SOFTWARE OVER \$50 YOU WILL RECEIVE **VOUCHERS** THAT ALLOW YOU TO GET

FREE

AMIGA SOFTWARE

We aim to be your No. 1 choice, by being the No. 1 quality AMIGA dealer in Australia.

All prices and availability are subject to change without notice. Some items listed may not have arrived by press time. All software items are shipped surface mail within Australia FREE. All other items are subject to a delivery charge.

CANBERRA CUSTOMERS

Call in to our shop in the Tuggeranong Town Centre, and check out the largest display of Amiga software in Canberra. Also on display are a large range of C64/128 and IBM PC titles.

INTERLINK — Your one stop software and accessories supplier.

INTERLINK SOFTWARE PTY. LTD.

SUPER STORE

UNIT 2, 216 COWLISHAW STREET, TUGGERANONG TOWN CENTRE



ORDER NOW
008 020 633
(orders only)
(06) 293 2233



FAX (06)
293 1438



MAIL ORDER
write on any piece of paper and send to -
P.O. Box 1155
Tuggeranong ACT 2900



what a computer command is. One thing I neglected to mention before is that it does not matter whether you issue commands in UPPERCASE, lowercase or MIXEDcase in AmigaDOS. In other words, DIR dir or Dir would all still work.

Now let's apply our knowledge by finding out what was on that Fish disk without icons which we were talking about before.

Single drive users take note

● If you don't have an external disk drive connected to your Amiga yet, then you will be seriously disadvantaged when trying to do any number of operations when using your machine. An Amiga with one drive is like a skateboard with the front wheels missing, you can still ride, but it's not going to be smooth and easy.

If you don't quite understand what I'm talking about, try this. Open up a CLI from Workbench and then remove the disk. Now insert a Fish disk (or any other disk) and type the command <Dir>. You will find that the Amiga requests that you re-insert the Workbench disk into drive DF0: Follow the instruction and watch what happens...

Got a listing of the Workbench disk, right? The reason this happens is due to the way that the Amiga only loads commands from disk as they are needed. If you had a second drive, you would merely have put the other disk in DF1: and typed the command <Dir DF1:> and you would have gotten what you wanted. That was but a very simple example and I don't want to go into this at any great depth here. However suffice to say that once you experiment a bit yourself, you will soon be convinced.

So what's the answer? Unfortunately, the most sensible solution to solving this problem is to fork out some hard earned cash and buy that second drive. But while this may well be the most sensible solution, it may not always be the most practical if like most people, you don't have a spare two or three hundred dollars to spend. There is another way which will serve as an interim measure until you can get that second drive.

Setting up a ram disk

● In order to be able to view other disk's contents when working in the CLI, it will be necessary for the single drive user to create a c directory in ram and copy the commands necessary into it. How many commands you place in ram is up to you and you are limited only by the amount of memory you have available.

For our purposes, the following list will meet our needs without draining the system of an excessive amount of memory. Dir, Cd, Type, Newcli, Endcli, List, Run, Execute and Assign. This is how to do it.

From a CLI, first type the command <Makedir ram:c>. Makedir does what its name suggests, it makes (or creates) a c directory in

ram. We can also use this command to create a directory of any name on any disk. Now to copy the necessary commands to ram:c the following procedure can be used,

```
Copy DF0:c/Dir to ram:c
Copy DF0:c/Cd to ram:c
Copy DF0:c/Type to ram:c
```

and so on, each time substituting the command after DF0:c/ to whichever one it is that you want to copy. Once you have finished copying all the commands over to ram, you need to tell the Amiga that you want it to use the commands in ram rather than from Workbench and best way to achieve this is with the help of the Assign command.

```
Assign c: ram:c
```

Having done that, you are now in a better position to view the contents of any other disk without having your Amiga continually complain that it needs the Workbench disk.

Now while the above does get you out of trouble for the time being, don't forget that each time you copy a command or anything else to ram, you are using up memory. So if you only have a basic Amiga with 512K of memory, things can soon start screwing up when you try to start a program that needs all the memory you've got.

Also, don't be fooled into thinking that getting a memory expansion unit such as the A501 will cure the rest of any other problems associated with one drive either. While it certainly does help, a memory expansion is not as important as a second drive. (Well, not in my opinion anyway!)

Lastly, to get your precious memory back when you've finished working with the CLI and bring the computer back to its original state, all that is necessary is to Delete everything you put in ram and reassign C: to Sys. The following steps will achieve this result.

First type

```
Assign C: sys:
```

and the Amiga will ask you to put Workbench back into drive DF0: Follow this instruction and then just use the delete command to remove all the contents in ram. One way is to do this:

```
Cd df0:
Delete ram:c all
```

and the Amiga deletes all the files in ram:c as well as the C directory itself. You now have all your memory back and are back to where you started before you set up a ram disk.

Note that the reason we first changed the current directory to be DF0: is because the Amiga would not have deleted c: in ram if we were still in its directory. More on why this happens will be discussed another time.

Checking out some other disks via CLI

● Now that we are all in a position to use other disks conveniently, let's check some out. If you have any Public Domain disks which do not show icons when opened on Workbench, insert one of them now. To see what the disk contains we would type Dir DF0: or Dir DF1:

for twin drive users. This gives you a listing of the root (or main) directory of the disk in the drive specified. To see everything on any given disk remember our options when using this command. (ie. opt a)

But what is all this stuff that's coming on the screen? Well, if we look at say a typical Fred Fish PD disk, one of the files you would get would be a "Readme" or "Contents" file. (Ignore anything with the .info extension. These are icons relevant to the particular file with the same name should it happen to have an icon). To see what the "Contents" file contains, we would use the Type command.

Type contents

● That would cause the Amiga to begin to scroll the information in the Contents file on the screen. As before, you can pause the scrolling at any time by pressing any key on the keyboard and re-start it with the backspace key. If you're lucky enough to have a printer hooked up to your Amiga and would like a print-out of the file, then try this:

```
Type Contents to prt:
```

Just don't forget to make sure you have the correct printer driver set up in preferences before you try the above!

Other typical things on the disk would naturally be programs of some type and these are usually contained in their own directory. You can easily recognize a directory in the CLI because the Amiga lists it with a (dir) displayed next to it. Change to any directory you like via the Cd command I showed you earlier. You should be starting to get the hang of moving around when in the CLI by now, so dig around a few disks and see what there is to see. Soon you will begin to realize just how much gear some of these disks contain.

So how do you recognize which file is a program and which file is not? After a while you will get used to recognizing which files are executables and which aren't. But as a rule of thumb guide to get you started, Text files usually have a self descriptive name such as "ReadMe" and Doc (or instruction) files normally have a .doc extension on them. Executables or programs usually have no extension on them at all.

A final note when using the Type command. If you ever try to type a file and just get garbage on the screen, then chances are that the file is a program which has been compiled or sometimes a text file which has been Crunched in order to make it use less space. You can stop the garbage from displaying on your screen simply by pressing <Ctrl-C> on your keyboard which will cause a BREAK message to appear. You can then continue on as normal. Note that you can stop most CLI commands from executing further using this method as well.

List instead of DIR

● In AmigaDOS, we have at our disposal another way to view the contents of a disk or directory other than the Dir command. List will also give you a display of a disk's contents

(continued on page 42)

the expert

CARTRIDGE

**FOR A PROFESSIONAL BACK-UP
ON COMMODORE 64/128 (64 MODE)**

NOW
WITH
BONUS
V3.2 UTILITY DISK
COUPON

BACK-UP — Disk to disk, Tape to disk,
Disk to tape, Tape to tape

MULTILOAD — Yes, it makes back-ups
of multiloads

FREEZES — Freezes and saves
programs to disk or tape

ONE FILE — Programs are saved
in one file

COMPACTS — Programs are
compacted to reduce disk space used

SAVES MORE — You can save 3 or
more programs per disk

VERY FAST — Reloads most programs
in less than 6 seconds

NOT NEEDED — The cartridge is not
needed for loading back

UPGRADABLE — Cartridges uses
RAM and disk based software for instant
low cost upgrading

MONITOR — Use the machine code
monitor to cheat, gain extra lives or restart
the program, etc.

JOYSTICKS — It has a joystick auto-
fire mode and joystick port swap feature.

WARRANTY — 12 months

WARNING — It is illegal to use the EXPERT for
the reproduction of COPYRIGHT material.

PROUDLY MADE IN AUSTRALIA
AND DISTRIBUTED BY —

**HOME ENTERTAINMENT
SUPPLIERS**



PTY LTD

UNIT 1/128 BONDS RD, RIVERWOOD N.S.W. 2210

PH: (02) 533 3679



as well as important file information that Dir doesn't show. Try this with Workbench in the drive:

List Df0:

You should end up with something like the following displayed in the CLI if you used Workbench 1.2 ->

Directory "df0:" on Sunday 18-Oct-87

Expansion.info 346 rwd 02-Mar-87
23:29:10

Trashcan Dir rwd 02-Mar-87 23:29:10

.info 82 rwd 09-Jun-87 12:43:46

c Dir rwd 02-Apr-87 09:44:21

Clock.info 338 rwd 02-Mar-87 23:31:49

Demos Dir rwd 15-Apr-87 07:57:18

Clock 19668 rwd 02-Mar-87 23:32:20

System Dir rwd 06-Apr-87 15:11:06

and so on until the last line which would look like ->

12 files - 13 directories - 196 blocks used

So what's all this then?

● The LISTing on the left side of the screen is the names of the files and directories contained in the disk in drive df0: The next entry to the right tells us either the size of the file being displayed or the fact that the entry is a Directory. The rwd (or hspawrd on WB 1.3) gives information in regards to the protection bit status of each file. (More on Protection Bit Status in the next installment of this series) And lastly the next two entries show us the Date and the Time of when the file was first created.

You are not restricted to listing the whole contents of a disk or directory with this command. For example to just get the specs on the Clock, you would type < List df0:Clock > and the Amiga would respond with the display:

Clock19668 rwd 02-Mar-87 23:32:2

So as you can see, once you begin to communicate with your machine in a language it understands, the Amiga begins to co-operate with your requests or demands quite readily and begins to behave itself in the way that you want it to.

Conclusion

● That should give you a bit of a taste of things to come when working in the CLI. It may all seem quite complicated at the moment and look like a hell of a lot to learn and remember, but if you just take your time, try the examples and experiment a bit, then you should find things making themselves clearer in no time.

We have now reached the end of this attempt at a beginners idea of a tutorial for using the CLI. How did I do? Well, if you have any suggestions, criticisms, things you would like to see explained or used five dollar bills, please post them to the editor ASAP! I found writing this piece a lot of work, but also a lot of fun and one of the rewards of writing is watching and reading for people's feedback later on. I hope you gained some mileage out of what was put in here. □

Commodore and Amiga Review 42

Where can you get over 2.4 Megabytes of software for \$24.95?

From
the editors of
the Australian
Amiga Review

Amiga-Live! issue three.

Three disks of hand picked public domain software, graphics and demonstrations.

We crunched them to fit.

We increased the floppy disk access speed by a factor of 400%.

Now you can collect quality software cheaply, quickly, from people whose judgement you can trust.

Contents Of Issue Three - *NEW FORMAT*

Bally(AR) - Blackbox(S) - Pacman(AR) - Castle(GAD) - World(AD)
Graphics(AT) - Vacbench(H) Plot(Ed) - AMC(UT) - Tunnel(AT) - Pz15(S)
Tetrix(S/AR) - Blitlab(UT) - FracGen(AT) - BootIntro(UT) - Diet Aid(PR)
Mouse Util(UT) - Atari-Emulator(H) - Furnish(PR) Mackie(UT)
AD= Text Adventure AT=Artistic AR=Arcade Ed= Educational GAD=Graphic
Adventure H=Humorous PR=Productivity S=Strategy T=Technical UT=Utility

PHONE (02) 817-0011

TOLL FREE (008) 25 2879

Credit Card and C.O.D. accepted over the phone.

ORDER FORM

Send cheque or money order made out to Prime Artifax, or use your credit card.

Name: _____ Day Phone: _____

Address: _____

Post Code: _____ Credit Card (tick) VISA ☐ M/C ☐ B/C ☐

Card Number: Exp: /

Please rush me issue three of Amiga-Live! I understand I will receive three disks within 14 working days of receipt of this order. Signature: _____

POST TO: Prime Artifax, 9 Augustine St,
Hunters Hill 2110

Maxwell's 24 HOUR MAIL ORDER SOFTWARE GALORE

GUARANTEED SERVICE ★ SAME DAY DESPATCH*

SOFTWARE... FIRST WITH THE LATEST... NEW TITLES DAILY

1000's OF TITLES ★ AMIGA ★ IBM 5.25" AND 3.5" ★ C 64 ★ C 128

★ C64 TOP HITS ★

GHOSTBUSTERS II	34.95
MEAN STREETS	36.95
BATMAN THE MOVIE	36.95
IRON LORD	36.95
JORDAN VS BIRD	34.95
POOL OF RADIANCE	49.95
CURSE OF AZURE BONDS	49.95
HILLSFAR	54.95
STRIDER	36.95
CABAL	36.95
TURBO OUTRUN	36.95
F14 TOMCAT	44.95
PATTON VS ROMMEL	29.95
THE UNTOUCHABLES	36.95
PICTIONARY	54.95
DOUBLE DRAGON II	36.95
GOULDS N GHOSTS	36.95
FIGHTER BOMBER	36.95
BEVERLY HILLS COP	36.95
CHASE HQ	36.95
WHERE IN THE WORLD IS CS?	59.95
TOOBIN	30.95
TUSKER	36.95
F-18 HORNET	44.95
HARD DRIVING	36.95
ROCKSTAR ATE HAMSTER	29.95
AFTER THE WAR	36.95
NINJA WARRIORS	36.95
TEST DRIVE II - THE DUEL	36.95
INDIANA JONES LAST CRSE	35.95
WALL STREET	35.95
KNIGHTS OF LEGEND	59.95
RED STORM RISING	49.95
BATTLE CHESS	36.95
POWER DRIFT	36.95
DRAGON WARS	36.95
MEAN STREETS	36.95
SUPER WONDER BOY	36.95
JACK NICKLAUS GOLF	36.95
MOON WALKER	36.95

★ PRICE MATCH! ★
Any regular advertised prices in this issue

★ AMIGA TOP HITS ★

AQUANAUT	59.95
CARAL	49.95
MOBELI	59.95
TURBO	49.95
7 GATES OF JAMBALA	49.95
DELUXE STRIP POKER	49.95
HILL RAIDERS	49.95
HIGH STEEL	59.95
WEIRD DREAMS	59.95
ROCK N ROLL	49.95
INTERPHASE	59.95
CHAMBERS OF SHAOLIN	59.95
OZO	49.95
COLOSSUS CHESS	59.95
CONFLICT EUROPE	59.95
DARLUS	49.95
FULL METAL PLANET	59.95
LEGEND OF DUEL	49.95
ULTIMATE DARTS	49.95
TWIN WORLD	49.95
THIRD II	59.95
CASINO GAMBLING	59.95
DR PLUMMET'S HSE OF FLUX	49.95
PIPE DREAM	54.95
WEST PHASAR	89.95
NINJA WARRIORS	54.95
CASTLE WARRIORS	69.95
CHICAGO 90	49.95
LEISURE SUIT LARRY II	52.95
JEISONS	59.95
F29 Retaliator	59.95

AMIGA DATABASE

DATA RETRIEVE	129.00
MAIL SHOT	29.95
SUPERBASE PERSONAL	159.95
SUPERBASE PERSONAL II	199.95
SUPERBASE PROFESS V3	399.00

AMIGA WORD PROC.

BECKER TEXT	149.00
ELECTRA SPELL CHECKER	49.95
KINDWORDS V2.0	129.00
MEDIA LINE FONTS	49.95
PAGESSETER II	199.95
PAGESTREAM FONT 9-12 EA	59.95
PAGESTREAM FONT 1-5 EA	64.95
PAGESTREAM LASER FONTS A	59.95
PAGESTREAM LASER FONTS B	64.95
PAGESTREAM V1.6	299.00
PEN PAL	199.00
PROFESSIONAL PAGE 1.3	399.00
PRO-WRITE VER 2.5	229.00
PUBLISHERS CHOICE	179.00
SCRIBBLE PLATINUM ED	110.00
SEX FONTS	49.95
TRANSCRIPT	99.00
TX-ED	129.95
WORD PERFECT	469.00

AMIGA SPREADSHEET

ANALYSE II	149.95
HALCALC	149.00
MAXIPLAN 500	149.00
MAXIPLAN PLUS V1.9	199.00
SUPERPLAN	199.00

AMIGA GAMES

4 X 4 OFF ROAD RACING	36.95
A.P.D.	49.95
ACTION FIGHTER	49.95
ADIDAS GOLDEN SHOE	59.95
ADIOS AMIGA	59.95
AFRICAN RAIDERS	49.95
AFTER THE WAR	54.95
AIR BALL	62.95
AMIGA CHAMPIONS	59.95
ARCHPELAGOS	49.95
ARMADA	69.95
ARMY MOVES	69.95
AROUND THE WORLD IN 80 DAYS	69.95
BALE OF POWER 1990	59.95
BARBARIAN II	49.95
BARDS TALE	49.95
BASKETBALL	69.95
BATMAN THE MOVIE	54.95
BATTLEHAWKS	59.95
BEACH VOLLEYBALL	54.95
BEVERLY HILLS COP	44.95
BEYOND THE ICE PALACE	44.95
BILLIARDS 3D	59.95
BLACK SHADOW	69.95
BLADE WARRIOR	69.95
BLOODWYCH	59.95
BLOODYWYCH DATA DISK	39.95
BLUE ANGELS	72.00
BOMBER	59.95
BRIDGE PLAYER 2000	54.95
CADAVRE	59.95
CARRIER COMMAND	59.95
CHASE HQ	59.95
CHESSPLAYER 2150	59.95
CLASSIC INVADERS	36.95
COMMANDO	44.95
COSMIC PIRATE	69.95
CRAPS ACADEMY	69.95
CROSSBOW - LEGEND OF TELL	54.95
CYBERNOID II	45.95
DAYS OF THE PARADISE	59.95
DINOSAUR DISCOVERY	44.95
DOGS OF WAR	44.95
DOUBLE DRAGON II	54.95
DRAGONS OF FLAME	89.95
DRAGONS LAIR II	44.95
DRAXHORN	59.95
DUAL PACK LEADERBOARD	44.95
DUNGEON MASTER	59.95
DUNGEON MASTER ASSISTANT	49.95
DUNGEON MASTER EDITOR	49.95
DUNGEON QUEST	74.95
ENLIGHTENMENT	59.95
FIENDISH FREDDY	69.95
FIGHTING SOCCER	49.95
FLIGHT SIMULATOR II	89.95
FSII #11 LAKE HURON DETROIT	49.95
FSII #2 PHOENIX/ALBUQUERQUE	49.95
FSII #3 CHICAGO ST LOUIS/CI	49.95
FSII EAST COAST	39.95
FSII EUROPE	39.95
FSII HAWAIIAN OYSEY	44.95
FSII JAPAN TOKYO/OSAKA	44.95
FSII WEST EUROPE SCENERY	54.95
GNUS	49.95
GHOSTBUSTERS II	59.95
GLOBAL COMMANDER	69.95

GRAND MONSTER SLAM

HARD & HEAVY	59.95
HARD DRIVING	59.95
HILLBALL	64.95
HAWKEYE	54.95
HILLSFAR	69.95
HONDA RVF	69.95
HORSE RACING	69.95
HUNT FOR RED OCTOBER	44.95
INDIANA JONES GRAPHIC	59.95
IRON LORD	69.95
IT CAME FROM THE DESERT	69.95
JACK NICKLAUS GOLF	59.95
JET	59.95
KEEP THE THIEF	59.95
KING OFF	49.95
KING ARTHUR	49.95
KING OF CHICAGO	74.95
KINGDOMS OF ENGLAND	69.95
KING'S QUEST II	44.95
KNIGHT FORCE	59.95
KULT	59.95
LAZER SQUAD	59.95
LICENCE TO KILL	49.95
LORDS OF THE RISING SUN	69.95
MANHUNTER NEW YORK	69.95
MAYDAY SQUAD	74.95
MILLERMAN	49.95
MIGHTY HERO	54.95
MILLERMAN	49.95
MOONWALKER	59.95
MORTVILLE MANOR	69.95
MURDER IN VENICE	59.95
NORTH & SOUTH	59.95
PICTIONARY	69.95
PLATOON	69.95
POOL 3D	49.95
POPULOUS PROMISED LANDS	39.95
POWERDROME	59.95
PRECIOUS METAL	59.95
PRO TENNIS TOUR	59.95
QIX	49.95
QUEST FOR TIME BIRD	54.95
QUESTOR II	62.95
RAFFLES	59.95
RAINBOW WARRIOR	59.95
REACH FOR THE STARS	49.95
RED HEAT	69.95
RETURN TO GENESIS	69.95
RINGSIDE	49.95
ROMANCE OF 3 KINGDOMS	99.00
RUNNING MAN	59.95
SAFARI GUNS	64.95
SAVAGE	54.95
SCRIBBLE DELUXE	49.95
SHADOW OF THE BEAST	74.95
SHADOWGATE	74.95
SHADOWGATE HINT DISK	32.95
SHINOBIS	59.95
SHOGUN	69.95
SHUFFLEPUCK CAFE	69.95
SILKWORM	59.95
SIN CITY	39.95
SIN CITY TERRAIN EDITOR	72.00
SKWEEK	59.95
SKYCHASE	54.95
SOLITAIRE ROYALE	44.95
SPACE ACE	59.95
SPACE DEFENCE INITIATIVE	59.95
SPACE PORT	79.95
SPACE QUEST I & II HINT DISK	79.95
SPACE QUEST III HINT DISK	34.95
SPACE RACER	49.95
SPACE ROLLS	54.95
SPRITING IMAGE	44.95
STELLARIX	59.95
STORY SO FAR VOL 3	49.95
STRYX	54.95
TANK ATTACK	59.95
TARGHAN	39.95
TEENAGE QUEEN	54.95
TERRARIUM	59.95
TERRYS BIG ADVENTURE	49.95
TEST DRIVE II MUSCLE CARS	32.95
TEST DRIVE II CALIFORNIA	39.95
TEST DRIVE II SUPERCARS	39.95
THREE STOOGES	79.95
THRILL TIME PLATINUM II	59.95
THUNDERBIRDS	59.95
TIME & MAGIC	69.95
TRIVIAL PURSUIT NEW BEGIN	49.95
TRIVIAL PURSUIT TWIN PACK	49.95
TURBO OUTRUN	52.95
TWO UP	49.95
ULTIMA IV	59.95
ULTIMATE GOLF	59.95
ULTIMATE HINT DISK II	44.95
UNTOUCHABLES	36.95
WHERE IN THE WORLD IS CS?	59.95
WHITE DEATH	89.00

WIDE WORLD OF SPORTS PK

WINDWALKER	60.00
WORLD CLASS LEADERBOARD	44.95
X MEN	60.00
XENON II	59.95

AMIGA EDUCATION

A.B. ZOO	29.95
ALGERIA	79.95
ANIMAL KINGDOM	69.95
ARITHMETIC	79.95
AT THE ZOO	79.95
CALCULUS	79.95
DESIGNO-SAURUS	59.95
DINOSAURS ARE FOREVER	69.95
DISCOVERY MATHS/SPELL	64.95
FUN SCHOOL 2 AGES 6-8	49.95
FUN SCHOOL 2 OVER 8	49.95
FUN SCHOOL 2 UNDER 6	49.95
INTELLTYPE	49.95
KID TALK	44.95
KINDERAMA	52.95
LITTLE RED HEN	39.95
MASTERTYPE	54.95
MATCHIT	49.95
MIXED-UP MOTHER GOOSE	59.95
READ & RHYME	69.95
RHYMING NOTEBOOK	49.95
SESAME ST NUMBERS	69.95
SESAME ST LETTERS	69.95
SESAME ST OPPOSITES	69.95
SPELLBOOK	59.95
TALKING ANIMATOR	89.95

AMIGA BUSINESS

BEST	495.00
DESKTOP BUDGET	99.00
CRITICS CHOICE	189.00
ELECTRONIC CASH BOOK	189.00
ELECTRONIC DEBITORS	249.00
HOME ACCOUNTS	119.00
HOME FRONT	129.00
PHASAR V3.0 BUDGET	134.95
SYBIZ EXCL. STOCK CONTROL	595.00
WORKS: PLATINUM EDITION	299.00

AMIGA UTILITIES

AMAX MAC EMULATOR	599.00
AMIGADOS 1.3 ENHANCER PK	30.00
AMIGADOS TOOLBOX	89.95
AREXX COMPILER	89.95
ASSEMB-PRO	169.00
B.A.D.	74.95
CROSS DOS	49.95
DEVPAC	169.00
DISK 2 5 1/2-AMIGA TYPWR	99.95
DISK MAGIC	74.95
DISK MASTER 1.3	44.95
DOS LAB	44.95
DOS-TO-DOS	99.95
GRABBIT V2	49.95
H-SOFT BASIC	254.95
LATTICE C VER 5.04	439.00
LOGO	199.00
MAG 2 DOS	149.95
QUARTERBACK 1.4	99.00
STUFF-IT MENU MAKER	64.95
SUPERBAC	89.95
ULTRACARD	74.95
VERUS KILLER (COMBAT)	34.95
VERUS PROTECTION TOOLBOX	79.95

AMIGA GRAPHICS/MUSIC

ANIMATE 3D	229.00
ANIMATION STAND	79.95
AUDICMASTER II	179.00
AWARD MAKER EDP DISK	52.95
AWARD MAKER PLUS	74.95
AWARD MAKER SPORTS	74.95
CAN DO	219.00
COMIC SETTER	129.95
DELUXE CONSTRUCT SET	179.95
DELUXE PAINT II	269.00
DELUXE PRINT	184.95
DELUXE VIDEO 3	184.95
DESIGN 3D	119.00
DIGIDIPRO FOR DIGIVIEW	179.95
DIGIPANT II	149.95
DIGIVIEW GOLD IV	349.00
DELUXE PAINT II HELP	79.00
DIRECTOR TOOLKIT	59.95
DIRECTOR THE	129.95
DR TS MID RECORD STUDIO	99.95
DR TS CASIO KEYS MODULE	399.95
DR TS CORVYST PROFESS	399.00
DRAW 2000 CAD	299.00
E-CLIPS CLIP ART PACK	139.00
ELAN PERFORMER	89.95

FANTASY FONTS

FORMATION	119.95
FUTURE DESIGN 3D	49.95
FUTURE SOUND DIGITISER	375.00
HOME BUILDERS CAD	279.00
INTERCHANGE	89.95
KARA FONTS II	104.95
MOVIE SETTER	139.95
MUSIC X	399.00
PAGE RENDER	199.00
PERFECT SOUND DIGIT 1000	199.00
PHOTON VIDEO ANIMATION	179.95
PIXEL SCRIPT (PSTSCR DRV)	199.00
PRINT MASTER ART GALL 2	89.95
PRO-VIDEO PLUS	499.00
PROFESSIONAL DRAW	375.00
PURE COLOR (COLOR DRV)	45.95
SCULPT 3D HUMAN DESIGN	59.95
SCULPT 3D INTERIOR DESIGN	59.95
SCULPT 3D MICROBOT DES	59.95
SCULPT-ANIMATE 40	799.00
SCULPT-ANIMATE 3D XL IMPR	269.00
SONIX	159.00
TV TEXT PROFESSIONAL	269.00
TOP FORM (FORM DESIGNER)	119.95
TURBO SILVER	249.00
VIDEO EFFECTS 3D	300.00
VIDEO STUDIO	199.95
VIDEO TITLER NEW	199.95
VIVA!	299.00
ZUMA FONTS IV	54.95

AMIGA SPECIAL INTEREST

A500 GIFT PACK SOFTWARE	150.00
CELEBRITY COOKBOOK	44.95
DISTANT SUNS	89.95
GP TERM V4.0	99.95
PROJECT MASTER	295.00
SECURITIES ANALYST	129.95

★ HARDWARE ★

AMIGA TEACHER PACKS	CALL
A2000 V2.2	1995.00
A2000/2000/68681	5399.00
A2000 HD	3395.00
A500 GIFT PACK	895.00
A500 16m	695.00
A1000 16m	895.00
A500 STARTER KIT	895.00
CASIO - SOFTWARE	249.00
RAM CARDS	CALL
HARD DISK CONTROLLERS	CALL
ASIO	995.00
MONITORS	CALL
PRINTERS	CALL
64 HOTSHOT PRINTER II FACE	119.00
64 HOTSHOT PLUS PRINTER	149.00
64 RS232 II FACE	99.00
64 SERIAL II FACE	144.00
GEN COCKS	CALL
MODEMS	CALL

★ BOOKS & MAGS ★

5	SERRA CLUE BOOKS	
10	CAD 128 BOOK	
15	AMIGADOS OFFICE/ABAC	
20	FIRST BOOK/AMIGA	
25	KIDS/AMIGA/COMPUTE	
30	BARDS LT 1/2/3 CLUE BOOK	
35	AMIGA MACH LANG PROG	
40	AMIGA DRIVE IN/OUT	
45	AMIGA BASIC IN/OUT	
50	AMIGA DOS IN/OUT	
55	SECOND BOOK AMIGA	
60	AMIGA C FOR BEGINNERS	
65	AMIGA C FOR BEGINNERS	
70	AMIGA SYSTEM PROG GUIDE	
75	AMIGA MACHINE LANG	
80	DESKTOP VIDEO	
85	HINT BOOKS	
90	ACE, AMIGA, C, AMIGA	
95	AMIZING COMPUTING, AC	
100	GUIDE, AMIGA USER, AM	
105	AMIGA TRANSACTOR, THE	
110	60. GAMES MACHINE, COM	
115	VIDEO GAMES, JUST COMM	
120	REVIEW, AMIGA COMPUTI	
125	PUR, AMIGA ACTION	
130	RESCUE, AMIGO TIMES,	

All about sprites

by Nick Van Heeswyk

THE C64 HAS a good range of sprite capabilities in Basic. You can have up to eight sprites on the screen at once all doing different things.

A few points on sprites

- A sprite is made up of 63 bytes of data.
- It is capable of sprite to sprite collision and sprite to background collision.
- Sprites can be moved in any direction like a single character.
- A sprite can be made larger in both X and Y co-ordinates.
- Sprites can be made up on a 3 by 21 grid.

Well, that's few Basic points, now type and run this program.

```
10 V=53248:POKE V+21, 1
15 POKE 2040, 13:POKE V+39, 1
20 FOR J=0 TO 62:READ X:POKE
832+J, X:NEXT
25 FOR XX=0 TO 255
30 POKEV+0, XX:POKEV+1, 100
35 NEXT XX:END
40 REM SPRITE DATA
45 DATA 0, 0, 0, 0, 0, 0, 8, 0, 0, 8, 0, 0,
63, 255, 236, 63, 255, 246, 63, 255, 224
50 DATA 63, 255, 224, 0, 41, 224, 0, 45,
224, 0, 37, 224, 0, 33, 224, 0, 63, 224
55 DATA 0, 1, 224, 0, 1, 224, 0, 0, 240,
0, 0, 240, 0, 0, 240, 0, 0, 0, 0, 0, 0, 0
```

Once you have typed in and run this program, you should see a Gun move from 0 to location 255.

Now I'll go through all the lines.

Line 10: Assigns V to the video chip and turns on sprite 1.

Line 15: Puts sprite 1 into block 13. Gives the sprite a white colour.

Line 20: Reads the sprite Data.

Line 25: Starts up a loop.

Line 30: Gives sprite 1's co-ordinates to XX. Puts sprite 1's Y co-ordinate to 100.

Line 35: Loop continues to 255 then ends.

Line 40: The sprite Data.

To give the sprite twice the magnifica-

tion type in the following line.
17 POKE V+23, 1:POKE V+29, 1

Now run the program again. Now the sprite is twice as large. If you would like to change the sprites colour, simply list line 15 and where it has POKE V+39, 1 change the one to any number between one and fifteen.

If you would like to make up your own sprites follow these instructions.

1. First draw up a grid 24 by 2 then divide it into three sections. Down the Y column label it 1 to 21. In the three parts you have divided it into write these numbers in each box: 128, 64, 32, 16, 8, 4, 2, 1. Now these become the three bytes. Colour in the squares to make up your picture.

When you have finished with your picture add up the bytes. Eg: if a square has been coloured in and the number above it in the X axis is 8, then add 8 onto the byte. Once you have worked out all the numbers, the numbers become the data. Now type in your data over mine and see if it works. If not try again.

To turn on a certain amount of sprites you add up their values. Eg:

Sprite	Value	Colour area	X, Y co-ordinates
1	1	39	0 and 1
2	2	40	2 and 3
3	4	41	4 and 5
4	8	42	6 and 7
5	16	43	8 and 9
6	32	44	10 and 11
7	64	45	12 and 13
8	128	46	14 and 15

Sprites are stored at locations 2040 - 2047

Multi coloured sprites

● To make multi coloured sprites change the eight parts of the bytes into four. Now they become 4 parts in each byte.

There can be up to four colours in each sprite.

1. Background (bit pair =00)
2. Sprites colour (bit pair =11)
3. multi-colour 1 (bit pair =10)
4. multi-colour 2 (bit pair =01)

To turn on multi-colour type POKE V+28, values and to turn of multi-colour type POKE V+28, 0 or values.

Sprite collision detection

● First you must assign a variable to the collision detection. Well, put A to the collision detection.
A=PEEK (53278) : If A=Values then print "hit"

All the program does is assign A to the collision and when the collision is detected it prints "hit".

For sprite to background collision simply change the PEEK to A=PEEK (53279).

If you are having trouble with sprites don't worry, because it took me a long time to figure out how to use them. When I first started it took me half a year to figure how to make eight different sprites appear on the screen. In most computing books you will find a lot of this information. Most books have sprite collisions in them but don't give an example, this is why I wrote this article to hopefully help you with some of the main points.

There is another idea that I have not talked about because it's very hard to understand. I have problems with it also. It is called the MSB register. It allows sprites to move right across the screen. As you would have seen in my short program, the sprite didn't make it right to the other side of the screen. To make the sprite continue to the other side you would have to put it in the MSB register. Most computer books and manuals have this information somewhere.

Here is a hint on making a game with two or more sprites. You must never use loops because while the loop is in progress nothing else will work. You should use a value. Eg: (mo=mo+2). That way everything will continue, but you must put in a GOTO to return to the Value so it keeps moving.

To turn off the sprite on the screen type POKE V+21, 0, and to bring it back on type POKE V+21, 1. □

AMIGA



AMIGA

HUNT FOR RED OCTOBER	\$44.95
DRAGON'S LAIR II	\$89.95
FIGHTER BOMBER	\$49.95
TV SPORTS FOOTBALL	\$69.95
DISTANT SUNS	\$79.95
SIM CITY TERRAIN EDITOR	\$34.95
FUTURE DREAMS	\$59.95
WEIRD DREAMS	\$59.95
BATTLE SQUADRON	\$59.95
FULL METAL PLANET	\$59.95
IT CAME FROM THE DESERT	\$59.95
GOLDRUSH	\$61.95
SIDESHAW	\$49.95
SHADOWGATE	\$69.95
INDIANA JONES - TEMPLE DOOM	\$69.95
DEMON'S WINTER	\$45.95
KEEF THE THIEF	\$45.95
FUSION	\$45.95
POWERDROME	\$54.95
RED LIGHTNING	\$54.95
HILLSFAR	\$45.95
PICTIONARY	\$45.95
OIL EMPORIUM	\$59.95
FIENDISH FREDDY	\$69.95
CONTINENTAL CIRCUS	\$54.95
SPACE ACE	\$89.95
TIME	\$69.95
DAY OF THE PHAROAH	\$54.95
SPACE QUEST	\$44.95
MR HELI	\$59.95
GARFIELDS WINTER TALE	\$49.95
NZ STORY	\$59.95
QUADRALINE	\$69.95
CASINO GAMBLING	\$59.95
CHASE HQ	\$49.95
MANIAC MANSION	\$61.95
CHICAGO 90	\$49.95
SKYCHASE	\$52.95
QUARTZ	\$49.95
SHUFFLEPUCK CAFE	\$59.95
LICENSE TO KILL	\$45.95
FAST BREAK	\$49.95
DR. DOOM'S REVENGE	\$59.95
SLAYER	\$49.95
THUNDERBIRDS	\$59.95
DRIVIN FORCE	\$59.95
TARGHAN	\$44.95
BATMAN CAPED CRUSADER	\$61.95
A.P.B.	\$49.95
XYBOTS	\$49.95
STUNT CAR RACER	\$59.95
DRAGON SPIRIT	\$49.95
THE STORY SO FAR VOL 3	\$49.95
NAVY MOVES	\$39.95
DANGER FREAK	\$61.95
PAPER BOY	\$49.95
MOTOR BIKE MADNESS	\$19.95
ROAD WARS	\$19.95
REALM OF THE TROLLS	\$61.95
LITTLE COMPUTER PEOPLE	\$19.95
KELLY X	\$19.95
POOL	\$19.95
ACTION FIGHTER	\$69.95
SKATE OF THE ART	\$69.95
VINDICATORS	\$49.95
SAFARI GUNS	\$49.95
BATTLE VALLEY	\$49.95
DYNAMITE DUX	\$59.95
NINJA WARRIORS	\$54.95
BATMAN THE MOVIE	\$59.95
PORTS OF CALL	\$39.95
NEVERMIND	\$54.95
LEGEND OF DIEL	\$49.95
SILKWORM	\$59.95
WINDWALKER	\$49.95
IRON LORD	\$59.95
F.O.F.T.	\$69.95

RAINBOW ISLANDS	\$59.95
SUPERMAN (NEW)	\$49.95
MICROPROSE SOCCER	\$59.95
KENNY DALGLISH	\$49.95
KICK OFF + EXTRA TIME	\$59.95
POWER DRIFT	\$59.95
SPACE QUEST	\$44.95
SPACE QUEST II	\$42.95
SPACE QUEST III	\$59.95
POLICE QUEST I	\$61.95
LEISURE SUIT LARRY	\$52.95
LEISURE SUIT LARRY II	\$79.95
KINGS QUEST I	\$44.95
KINGS QUEST II	\$44.95
KINGS QUEST III	\$44.95
BORODINO	\$49.95
SPACE SCHOOL SIMULATOR	\$39.95
688 ATTACK SUB	\$45.95
FALCON F16 FIGHTER BOMBER	\$52.95
OMEGA	\$59.95
ROMANCE OF THREE KINGDOMS	\$99.95
STAR WARS TRILOGY	\$59.95
THE HOUND OF SHADOW	\$49.95
X-OUT	\$59.95

EDUCATION

WHERE/WORLD CARMEN SANDIEGO	\$84.95
WHERE/EUROPE CARMEN SANDIEGO	\$84.95
TRUE STATS - MATH (HIGH SCHL)	\$69.95
ARITHMETIC (HIGH SCHOOL)	\$69.95
PROBABILITY (HIGH SCHOOL)	\$69.95
TRIGONOMETRY (HIGH SCHOOL)	\$69.95
CALCULUS (HIGH SCHOOL)	\$69.95
DISCOVERY MATH - MASTER DISK	\$59.95
DISCOVERY SPELLING - MASTER DK	\$59.95
SPELLBOUND PRIMARY	\$49.95
FUN SCHOOL 2 UNDER 6	\$49.95
FUN SCHOOL 2 OVER 8	\$49.95
FUN SCHOOL 2 AGE 6-8	\$49.95
KINDERAMA PRE-SCHOOL-6	\$59.95
TALES FROM ARABIAN NIGHTS 8-12	\$69.95
ROBOT READERS PRE-SCHOOL	\$39.95

LOTS MORE - PHONE OR CALL IN**PRODUCTIVITY**

SONIX	\$110.95
DISKMASTER	\$74.00
DESKTOP BUDGET	\$49.00
PEN PAL	\$199.00
PROFESSIONAL PAGE V1.3	CALL
ART PARTS FOR DPAINT	\$49.95
SEASONS & HOLIDAYS CLIP ART	\$45.95
AMIGA POSTCODE	\$49.95
SMART KEY	\$59.95
CALC KEY	\$29.95
DPAINT III	\$249.99
DPRINT II NEW 1.3 WB	\$149.00
SUPERBACK	\$99.00
QUARTERBACK	\$115.00
FORMATION	\$99.00
DELUXE VIDEO III	\$164.95
VIDEO TITLER	\$169.95
PROFESSIONAL TV TEXT	\$239.00
MODELLER 3D SPECIAL	\$169.00
DRAW 2000 - SPECIAL	\$149.00
A TALK- SPECIAL	\$49.95
VIDEOSCAPE 3D - SPECIAL	\$79.95
HOME BUILDERS CAD	\$299.00
DELUXE MUSIC CONSTR SET	\$164.95
SYBIZ EASY LEDGERS	\$575.00
DIGIVIEW GOLD 4	\$299.00
DIGIPAIN 3	\$134.95
PHOTON PAINT V2.0	\$199.00

MASTER SOUND	\$89.95
ECE MIDI	\$139.95
MIDI MAGIC	\$229.95
PHILIPS MONITOR TV TUNER	\$199.00
COMICSETTER SPECIAL	\$69.95
MOVIESETTER SPECIAL	\$59.95

LOTS MORE - AMIGA - IBM - 64D

3.5" DSDD BLANK DISKS SPECIAL	\$16.95
KAO COLORED DISKS 3.5" SPECIAL	\$24.95
CITIZEN CSX-140 24 PIN COLOR PRINTER	\$799.00

AMIGA FOR BEGINNERS TUTORIAL VIDEO	\$29.95
------------------------------------	---------

HOT - AMIGA 2500 \$CALL

AMIGA 2000	\$1975.00
AMIGA 2000 + 40 MEG HARD DRIVE	\$2995.00
AMIGA 500	\$799.00

AMIGA STARTER KITS**+ FREE TUTORIAL VHS VIDEO****+ 6 FREE GAMES \$875.00**

AMIGA EXTERNAL DRIVE	\$215.00
AMIGA 512K RAM EXPANSION	\$199.00
SPECIAL 1084S MONITOR	\$499.00

A590 HARD DRIVE	\$899.00
-----------------	----------

VIDI-AMIGA-FRAME GRABBER	\$399.00
--------------------------	----------

VIDTEK GENLOCK	CALL
----------------	------

KURTA GRAPHICS TABLET	CALL
NEW! SHARP SCANNERS JX100	CALL FOR INFO

NEW COLOUR SPLITTER	\$499.00
---------------------	----------

COMMODORE A2300 INTERNAL	\$999.00
GENLOCK for A2000	\$999.00

ORDER NOW!

QTY	DESCRIPTION	PRICE

TOTAL = \$

ALLOW 14 DAYS FOR DELIVERY. ALL PRICES SUBJECT TO CHANGE. ADD \$3.00 SOFTWARE POSTAGE.

HARDWARE. CALL FOR ARRANGEMENT.

TICK A BOX BELOW:

☐ CHEQUE ENCLOSED☐ PLEASE DEBIT MY BANKCARD☐ PLEASE DEBIT MY MASTERCARD

IF CREDIT CARD. PLEASE SUPPLY: NUMBER, EXPIRY DATE, SIGNATURE

DO NOT SEND CASH!

THE HARD DISK CAFE**SHOP 9-15 BUNGAN STREET****(ENTRANCE AKUNA LANE)****MONA VALE 2103.****PHONE: (02) 99 4441****AUTHORISED EDUCATION DEALER****ASK FOR KAREN, ROBERT, NEIL OR DARREN****SEE THE HOT NEW AMIGA 2500**

BUSINESS HOURS
Mon to Friday
9AM to 4.30PM

PO BOX 9
RIVETT ACT 2611

24 HOUR SERVICE
PHONE: (06) 288 0131
FAX : (06) 288 0337

64/128

AMIGA

SKETCHPAD 128

Brand new from Free Spirit. Sketchpad 128 fully supports your C128 and takes advantage of its crisp 80 column graphics capabilities. It is packed with all the features of a professional drawing package such as drawing SMOOTH freehand lines, 3D Solids, creating Slideshows, Cut & Paste, Clip, Flip, Enlarge, Shaded Fill Patterns, a variety of Fonts, Air Brush and more! It supports Printshop graphics and is completely compatible with all BASIC 8 files. Sketchpad 128 unleashes the graphics power of your C128! It supports your 1351 Mouse, 64K Video Chip, 1581 drive and 80 column display.

What more could any real C128 user ask for?

ONLY \$39

Spectrum 128

A deluxe paint program for the C128D (or the C128 with 64K Video RAM Upgrade). Uses 80 column display for 640 x 200 pixel resolution. Will display 128 colours! Menu operated. Requires 1351 or compatible Mouse. Features include air brush, erase, mirror, multi-colour, block fill or erase, pixel editor, colour editor, fonts, slide show and more. Compatible with Sketchpad 128, News Maker 128, Basic 8, 1750 REU, 1541, 1571 and 1581 disk drives

OUR PRICE \$49

WHILE THEY LAST WORD PERFECT & THE WORKS - PLATINUM EDIT

**BOTH THESE TOP
TITLES REDUCED BY
OVER \$120 TO
\$299**

THIS MONTH ONLY

G.P. TERM

Telecommunications Software
Developed in Australia
specifically for the Amiga

- Easy access to Viatel and other Videotext services
- Supports multitasking
- Usable from CLI or Workbench
- Baud rates from 300 to 19200
- Automatic dialling/redialling

Only \$99

Also available for 64/128 - \$59

The Write Stuff C128

The most productive C128 word processor on the market! Features? The list is so long, but... 60 User-definable macros, Up to 64K divided into 10 work areas. Built-In Outline Generator, File Translator for other w/p documents, Quick preview for up to 250 columns, WYSIWYG preview, Industrial strength printer macros, Load/save to 16K buffer, Support 1700/1750 RAM Expanders, Split screen option, Alarm clock, Micro justification/line pitch control; Create custom characters, and much more! The Write Stuff, with its well-written manual, on-line help and full keyboard overlay, is easy to use. And if you need power, you won't find another w/p system on the market that can match it!

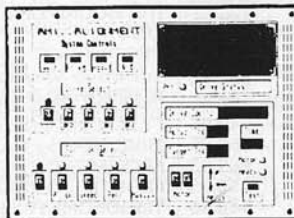
ONLY \$49

NEWSMAKER 128

Finally, Desktop Publishing for your C128. News Maker 128 can be used to create professional looking newsletters, reports, signs and posters. It can be used as a stand alone program or in combination with word processing or graphic software but uses standard sequential files for "pouring" text into user defined columns. Full page layout, pop down menus, smooth screen scrolling, font selection, cut, paste, mirror, flip are among the options available. News Maker 128 requires a C128D computer or a C128 with 64K Video RAM Chips installed, an 80 column RGB monitor, a 1571 disk drive, 1351 or M3 Mouse and a Commodore or compatible printer. Optional equipment supported includes the 1750 RAM Expansion Unit and a second disk drive.

ONLY \$43

Ami... Alignment



Treat your drives with respect!
A full-featured diagnostic & alignment system

Slashed to \$49

DR T CRAZY SPECIAL

Dr T's Model A
Midi Interface

**NOW
ONLY
\$95**

Listed below is a sampling of our great range of products at excellent prices. We currently have over 1000 Amiga products (growing daily) and a great range of 64/128 products (over 400) to cater for your every requirement. We also stock a large range of utilities and books, and we guarantee all our products. Drop us a line, or phone or fax us for our free catalogues which include latest games and educational programmes.

64/128

Utilities

1750 Ram Expander	429
1541/1571 Drive Alignment	44
1581 Toolkit	60
Assembler/Monitor/64	60
Basic 8	48
Basic 8 Toolkit	29
Basic Compiler 128	90
Basic Compiler 64	92
Big Blue Reader 64/128	65
CP/M Kit	55
Cobol 128	55
Cobol 64	56
Gnome Kit 64/128	58
Maverick Copier V4	50
Digitalizer	39
Super Snapshot 5 w/C128 Disable	110
Super Snapshot V5	93
SysRES Enhanced	29

Books

CPM Users Guide	40
Superbase The Book 64/128	45
Twain Cities 128 Compendium 1	40

Accessories

Aprospan 4 Slot Cartridge Holder	45
Warspeed 128	72
Super Graphics Senior	145
Video Ram 64K cart. full	90

Creativity

Animation Station	129
Award Maker Plus/C64	60
Home Designer 128	59
Home Designer/Circuit Symbol Lib	19
NewsMaker 128	43
Spectrum 128	49

GEOS

Becker Basic for Geos 64	72
Desk Pak Plus	45
Fontpak Plus	45
GEOS 64 v.2	89
GEOS/Programmer 64	110
GEOS Write Workshop 64	87
Geocalc 128	96
Geocalc 64	67
Geochart 64	48
Geofile 128	96
Geofile 64	67
Geopublish 64	69
Geos 128 v.2.0	100
Geospell 64/128	45
Wordpublishers 64/128	60

General Productivity

Pocket Filer 2	79
Pocket Planner 2	79
Pocket Superpak 2	145
Pocket Writer 2	84
Security Analyst 128	70
Superbase 128 - V3	90
Superbase 64	59
Supabase/Script/Book 128 Pak	130
Supabase/Script/Book 64 Pak	110
Superscript 128	90
Superscript C64	59
Technical Analysis System 128	86
Technical Analysis system 64	58
Wordpro 128 w/Speller w/Filepro	79
Wordpro 64 w/Speller w/TurboLoad	79
Vizistar 128	69
Write Stuff 64	40
Write Stuff 64 w/Talk	49
Write Stuff C128 Version	49
Viziwrite 128	59

Amiga

Books

1001 Things to do with Amiga	30
AMIGA Desktop Video	30
Amiga C-advanced Programmes+	45
Amiga BASIC Inside & Out Book+	45
Amiga Machine Language Book	35
Amiga System Programs Guide	60
Amiga Tips & Tricks Book	35
Amiga for Beginners	35
More Amiga Tips & Tricks +	35

General Business

Citydesk V2.0	296
Data Retrieve	105
Data Retrieve Professional	360
Easy Ledgers	422
Excellence	289
Maxiplan Plus	305
Pen Pal	198
P.H.A.S.A.R. v3	129
Superbase Personal 2	210

Educational

Linkword: French	43
Linkword: German	43
Linkword: Italian	43
Linkword: Spanish	43
Math-Amation (College)	86
Mavis Beacon Typing	75

Entertainment

F16 Combat Pilot	55
Fast Break	80
Grand Prix Circuit	50
Gunship	72
Hollywood Strip Poker	50

Leaderboard Tournament Disk	27
Licence to Kill	50
Planet of Lust	49
Rambo III	50
Robocop	65
Sim City	70
Test Drive II - The Duel	59
Test Drive Scenery Disks (each)	29
Tom and Jerry	49

Creativity Graphics

Award Maker Plus	80
Delux Paint V3.0	229
Digi Paint V3	170
Digiview 3.0	289
Digiview Gold for A500/A1000	289
Director	110
CanDo	185

Utilities - Languages

64 Emulator 2/Amiga 500	86
64 Emulator 4/Amiga 1000	86
Amikit	58
Amiga Alignment System	49
Arrex	72
Assempro	143
DOS-2-DOS	79
DSM	97
Disk-2-Disk v.2.1	72
Mac Emulator	255
Raw Copy V1.3	85

Sound Music

Dr T KCS V.3	329
Synthia Pro	329
Dr T Midi recording Studio	95
Synthia	143
Music X	429

RED HOT AMIGA SPECIALS FOR THE NEW DECADE

BLANK 3.5" DS/DD
\$1.50 EACH ANY
QUANTITY

ANALYSE 2	118
PRO WRITE 2.05	180
AMI KIT	58
DESKTOP	
BUDGET	85
ASSEMPRO	143
DIGI PAINT V3	170
DIGI VIEW GOLD	289
EXCELLENCE	289
PROFESSIONAL	
PAGE	479

CHECK OUT THESE GREAT SPECIALS			BRIWALL AUSTRALIA PO BOX 9 RIVETT ACT 2611
BASIC 8 PACKAGE THE TOTAL BASIC 8 SET-UP Basic 8 Basic 8 Toolkit How To Get The Most Out Of Basic 8 These Programmes Sold For \$109 PACKAGE PRICE ONLY \$79 A Saving of \$30	COMMODORE 128 PACKAGE No 1 80 COLUMN FUN AND GAMES 5 Fun Programmes For The 128 Wheel and Deal Digitalker 128 Tarot 128 ESP Tester Memory Academy Normal Price For These 5 Programmes is \$172 PRICED TO SELL AT \$99	AMAZING AMIGA VALUE Media Line Desktop & Video Package This package contains 1. Font Disk 1 2. Animation Backgrounds 3. Clip Art Disk Original Price for the 3 programmes was \$90 PACKAGE PRICE A LOW \$49 SAVE \$41	ORDERS All in stock items shipped same day. Please allow 14 working days for delivery of out of stock items. Should your product be faulty please return disk only & copy of receipt for immediate free replacement. Please make cheques payable to "Briwall Australia" and mail order to: BRIWALL AUSTRALIA PO BOX 9 RIVETT ACT 2611 COD also available. Prices are subject to change without notice.
COMMODORE 128 PACKAGE No 3 ADVANCED USER PACKAGE 5 GREAT PROGRAMMES FOR ADVANCED USERS Prototerm 128 Digitalker 128 Protolinc BBS 128 Super 81 Utilities 128 Colorez 128 These Programmes Originally Sold At \$190 SPECIAL PACKAGE PRICE ONLY \$89 SAVE \$101	LATEST ENTERTAINMENT TITLES - 64/128 AD & D - Curse of Azure Bonds 50 After Burner 44 Batman - the Movie 35 Aussie Games 36 Licence to Kill 27 Rambo III 39 Superman 39 Test Drive II - the Duel 39 Tom & Jerry 31 PLUS LOTS MORE - ASK FOR OUR CATALOGUE	AREXX THE REXX LANGUAGE FOR THE AMIGA ● Interpreted operation - no compile-link run steps ● Exceptional string handling facilities ● Built-in source level debugger ● Compact re-entrant code - only 32k ONLY \$72	
NAME.....PH (.....) ADDRESS..... CITY.....STATE.....POSTCODE.....COUNTRY..... DESCRIPTION.....QUANTITY.....EACH.....TOTAL..... For complete list of products & prices, please tick ()			BK/CARD/MASTERCARD/VISA NO:.....EXPIRY DATE..... Cheques payable to Briwall Australia SIGNATURE..... COMPUTER TYPE:..... SUB-TOTAL.....\$..... POSTAGE.....\$...4.00..... GRAND TOTAL.....\$.....

Questions beginners ask

Using the various window gadgets

● Some people are unaware of the usefulness of these "gadgets", which include the BACK-TO-FRONT gadget (top right hand corner of any window), SIZING gadget (bottom right corner), SLIDER gadgets (right and bottom edge), ARROW gadgets (above and below the slider gadgets) and of course the CLOSE gadget (top left corner). Some programs have other gadgets, such as the ICONIFY gadget (in the top right corner, looking like a double-rectangle).

So if you're halfway through reading a file, and want to get to a screen or window behind it, you could use the Back-to-Front gadget, do what you want, then use it again to get the first file to the front again. Or you might just click on the ICONIFY gadget (or press the DEL key), which reduces the whole screen to a small icon until you reverse the process by doing the same thing again.

If you ever see a window with the slider gadgets not filling the whole

length of the window, then you know that there are icons in that window which you can't see. To see them just drag the sliders to and fro until you can. Or click on the small Arrow gadgets to get a smooth scroll up or down or across. Experiment with the Megadisc window behind this one. All these gadgets are designed to make the limited space on screen more flexible, so make the most of them.

Try these if in doubt or stuck - how do I get out of this?

● There are times when you might be running a program, or an animation, or viewing a graphic, and you're not sure how to get out of it. Sometimes you just can't because the program has crashed, or because the programmer didn't program it correctly, or because the programmer has an eccentric way of doing things. But there are some standard things to try which may work:-

● To exit a graphic, usually clicking in the top left corner will do it.

● To stop a process, press CTRL along with C (and if that doesn't work, CTRL with, possibly, S or D or X or Q or even ESC).

● To exit an animation, try pressing the ESC key.

● To exit a "batch file", such as your Workbench's startup-sequence, simply hold down CTRL and D - you'll see a couple of asterisks and the word BREAK come up on screen and the PROMPT (ie the 1> or something similar) will appear and wait for you to type in a command. Try this when next you boot up with Workbench, and type in DIR - you'll get a listing of the files on the Workbench disk.

● Occasionally, simply pressing the left or right mouse button will get you out of a process.

If you don't want to re-set (CTRL-A-A), and want to get back to the Workbench or CLI screen, use the LEFT-AMIGA with M or N to switch back and forth between screens.

And finally, the more obvious way - it could be that there's a menu at the top of the screen with a QUIT option. I've often been caught trying obscure ways of exiting something and have forgotten that one. □

C64 Colour, Graphics & Sound Part III

Histograms

by Greg Perry

THE COMMODORE graphics set makes it easy to draw a histogram (bar chart) with a resolution of up to 8 steps per character without the need to go into high resolution plotting.

Each character is constructed on an 8 X 8 pixel grid. In the keyboard graphics set, there are a number of different graphic symbols (including reverse field ones) which provide either, only one or two of the 8 possible horizontal or vertical lines, or sets of partially filled character blocks. Have a close look at the keyboard and see if you can identify them.

To see them properly, clear the screen, position the cursor in the centre of the screen and type the following sequences

Horizontal: type the following characters on the same line

C= and T; shift and E, D, C, F, R; and C= and @ C= and T, Y, U; REVERSE ON followed by C= and I, O, P, @, and SPACE

Vertical: type the following characters in a vertical column

C= and H; SHIFT and T, G, -, H, Y; C= and N C= and H, J, K; REVERSE ON followed by C= and L, N; and space.

Notice that C= and G or H, and C= and M or N give the same characters. In the original Commodore character sets these were different, but to improve the colour resolution most characters now consist of a minimum of two lines of pixels. From these graphics, it can be seen that there are partially filled characters containing 8 horizontal and 6 vertical steps.

These can be used for high resolution histograms. To print a solid horizontal histogram with high resolution, we print reverse field spaces for the main blocks then use one of the 5 partially filled vertical characters for the last block.

With 37 columns available for the plot (borders take the other 3), the resolution with 6 steps per character is 1:222. The characters are selected by their Commodore ASCII character codes in Line 300. See if you can figure out how the program works.

Program: Horizontal Histo

```
10 REM (C) Greg Perry, Brisbane 1984
100 REM HORIZONTAL HISTOGRAM
110 FOR I=1 TO 5: READ CH
120 CH$(I)=CHR$(CH): IF I>3 THEN CH$(I)=[RVS]+CH$(I)
130 NEXT
140 PRINT "[CLR]" TAB(5)"HISTOGRAM
[SPACE]RESOLUTION[SPACE]1[SPACE]IN
[SPACE]222"
150 GOSUB 250: PRINT "[HOME,DOWN]"
160 FOR J=1 TO 19:A=RND (0)*37*6
170 B%=A/6:C%=A-B%*6: PRINT "[RIGHT]";
180 FOR I=1 TO B%: PRINT "[RVS,SPACE]";
NEXT
190 PRINT "[OFF]"CH$(C%)
200 NEXT
210 POKE 214,22: PRINT : PRINTTAB
(8)"PRESS[SPACE]SPACE[SPACE]
FOR[SPACE]MORE"
220 GET A$: IF A$="" THEN 220
230 GOTO 140
240 END
250 REM BORDER
260 PRINT "[<A>]"; FOR I=1 TO 37: PRINT "[<R>]"; NEXT : PRINT "[<S>]"
270 FOR I=1 TO 19: PRINT "[<Q>]" TAB(38)"[<W>]"; NEXT
280 PRINT "[<Z>]"; FOR I=1 TO 37: PRINT "[<E>]"; NEXT : PRINT "[<X>]"; RETURN
290 REM DATA FOR HORIZ. CHARACTERS
300 DATA 180,181,161,182,170
```

For a vertical histogram we use a similar method except there are now 8 vertical steps per characters. Using 20 lines, this provides a vertical resolution of 1:160. Note the cursor movements in Line 190. What do they do? HINT : think of how you would print this picture manually from the keyboard.

Program: Vertical Histo

```
10 REM (C) Greg Perry, Brisbane 1984
100 REM VERTICAL HISTOGRAM
110 DIM A%(50): FOR I=1 TO 7: READ CH
120 CH$(I)=CHR$(CH): IF I>4 THEN CH$(I)=[RVS]+CH$(I)
130 NEXT
140 PRINT "[CLR]" TAB(3)"VERTICAL
[SPACE]HISTOGRAM[SPACE]1-160
[SPACE]RESOLUTION"
150 GOSUB 240: PRINT "[HOME]"
160 FOR J=1 TO 36:A%(J)=RND (0)*20*8:
NEXT
170 PRINT "[HOME]"; FOR J=1 TO 36: POKE
214,20: PRINT
180 PRINT TAB(J);C%=INT (A%(J)/8)
190 FOR I=1 TO C%: PRINT "[RVS,SPACE,OFF,UP,LEFT]"; NEXT
```

```
200 PRINT CH$(A%(J)-C%*8): NEXT
210 POKE 214,22: PRINT : PRINT TAB
(8)"PRESS[SPACE]SPACE[SPACE]FOR
[SPACE]MORE"
220 GET A$: IF A$="" THEN 220
230 GOTO 140
240 REM BORDER
250 PRINT "[<A>]"; FOR I=1 TO 37: PRINT "[<R>]"; NEXT : PRINT "[<S>]"
260 FOR I=1 TO 20: PRINT "[<Q>]" TAB(38)"[<W>]"; NEXT
270 PRINT "[<Z>]"; FOR I=1 TO 37: PRINT "[<E>]"; NEXT : PRINT "[<X>]"; RETURN
280 REM DATA FOR VERT. CHARACTERS
290 DATA 164,175,185,162,184,183,163
```

Another use for such histograms is to display the time remaining in a game. The next program displays a timer count-down of ten seconds in reverse field.

Program: Timer Histogram

```
10 REM (C) Greg Perry, Brisbane 1984
100 REM TIMER HISTOGRAM
110 FOR I=1 TO 5: READ C
120 CH$(I)=CHR$(C): IF I>3 THEN CH$(I)=[RVS]+CH$(I)
130 NEXT
140 PRINT "[CLR,DOWN2]"; GOSUB
230:TI$="000000"
150 PRINT "[HOME]" TAB(13)"TIME[SPACE]
RIGHT$(TI$,2)"[SPACE]SECS"
160 A=(TI/600)*222: IF A>222 THEN 200
170 B%=A/6:C%=A-B%*6: PRINT "[DOWN2,RIGHT]";
180 IF B%<1 THEN PRINT CH$(C%): GOTO
150
190 FOR I=1 TO B%: PRINT "[RVS,SPACE,OFF]"; NEXT : PRINT CH$(C%): GOTO 150
200 POKE 214,22: PRINT : PRINT TAB
(8)"PRESS[SPACE]SPACE[SPACE]FOR
[SPACE]MORE"
210 GET A$: IF A$="" THEN 210
220 GOTO 140
230 REM BOX
240 PRINT "[<A>]"; FOR I=1 TO 37: PRINT "[<R>]"; NEXT : PRINT "[<S>]"
250 PRINT "[<Q>]" TAB(38)"[<W>]"
260 PRINT "[<Z>]"; FOR I=1 TO 37: PRINT "[<E>]"; NEXT : PRINT "[<X>]"; RETURN
270 REM DATA FOR HORIZ. LINES
280 DATA 180,181,161,182,170
```

Exercise: Add colour changes to the above three programs.

Before leaving histograms, we should look a common one that is used in dem-

onstration programs. This is a low resolution multi-colour histogram using colour and simple graphics to present a pseudo three-dimensional effect.

Exercise: Before looking at the program listing, work out how, by starting at the bottom of the screen, you would print a vertical block of say 10 reverse field characters.

Done it?

Answer: The process involves the following steps:- position the cursor in the centre of the screen, press reverse on [RVS], then a space followed by cursor up [UP] and cursor left [LEFT], followed by another space and so on.

Now, on the top of the column to give a 3-D effect, turn reverse on [RVS], press C= and "<*" [<*>], press cursor left twice [LEFT 2], reverse on [OFF] and finally another C= and "<*" [<*>].

It's not that difficult, is it?

The following program uses a similar but slightly different routine. Apart from the background graphics, the graphics, colour and cursor control symbols are in Lines 230 - 250; a C= and "G" [<G>] is used to define the left hand edge of the column, reverse spaces of different colours to fill the front face of the block, and cursor movements [UP] and [LEFT 2] to position the cursor on the line above ready to print the next block. The top of the block is printed as discussed above. Figure out how these create the 3-D effect.

Remember, POKE 214 is to position the cursor on a particular screen line and POKE 646 is current character colour.

Program: 3-D Histogram

```
10 REM (C) Greg Perry, Brisbane 1984
100 REM 3-D HISTOGRAM
110 REM DRAW BORDER
120 PRINT "[CLR]"; FOR I=1 TO 20: PRINT TAB(3)"[<Q>]" TAB(34)"
[<W>]"; NEXT
130 PRINT "[HOME]"; FOR I=1 TO 4: PRINT TAB(4); FOR J=1 TO
30: PRINT "[C]"; NEXT
140 FOR L=1 TO 5: PRINT : NEXT : NEXT
150 FOR I=1 TO 4: PRINT TAB(I+2)"[<*>]"; FOR J=1 TO 30: PRINT "
[RVS,SPACE]"; NEXT : PRINT "[RVS,<*>]"; NEXT
160 POKE 214,19: PRINT : PRINT "1--": PRINT "[SPACE]2--": PRINT
"[SPACE]3--"
170 C(1)=0:C(2)=3:C(3)=10
180 REM PLOT HISTOGRAM
190 FOR K=1 TO 3: FOR J=1 TO 10: POKE 214,18+K: PRINT : POKE
646,C(K)
200 FOR I=1 TO 10-K*3+J
210 REM FOR I=1 TORND(0)*(20-K*4)
220 PRINT TAB(J*3+K);
230 IF I=1 THEN PRINT "[<BLU>,RVS,<*>]"; POKE 646,C(K);
PRINT "[SPACE,LEFT2,UP,OFF]";
240 PRINT "[<G>,RVS,SPACE,OFF,LEFT2,UP]";
250 NEXT : PRINT "[<*>,RVS,<*>,<BLU>]"; NEXT : NEXT
260 END
```

If you do not like the colours change the values of C(1-3) in Line 170.

Exercise: Modify the above program to use random values: ADD a REM to the start of Line 200 and DELETE the REM from Line 210.

Exercise: Instead of using stepped or random values make the following changes to input a set of actual values.

```
10 DIM A(3,12)
20 PRINT"[CLR]PLEASE INPUT VALUES FOR 3 BANKS"
30 PRINT"EACH WITH 12 COLUMNS"
40 FOR I=1 TO 3:FOR J=1 TO 12
50 PRINT"BANK";I;"COLUMN";J;
60 INPUT"VALUE";A(I,J)
```

```
70 IF A(I,J)>19 THEN PRINT"TOO BIG":GOTO 60
80 NEXT:NEXT
```

and CHANGE

```
200 FOR I=1 TO A(K,J)
(DELETE LINE 210 if present)
```

Exercise: This will only allow values up to 19, as shown in Line 70. If you wish to make this a more general program, include a scaling routine by DELETE Line 70 (and Line 210 if present)

Firstly, initialize maximum and minimum values for each bank

```
90 FOR I=1 TO 3:MX(I)=A(I,1):MN(I)=MX(I):NEXT
```

Then set maximum and minimum values for each bank

```
92 FOR I=1 TO 3:FOR J=1 TO 12
```

```
94 IF MX(I)<A(I,J) THEN MX(I)=A(I,J)
```

```
96 IF MN(I)>A(I,J) THEN MN(I)=A(I,J)
```

```
98 NEXT:NEXT
```

and finally CHANGE

```
200 FOR I=1 TO (A(K,J)-MN(K))/(MX(K)-MN(K))*19
```

This ensures that each bank is scaled independently to fit it in the screen range of 19 vertical positions.

Exercise: Add similar routines to the high resolution histograms discussed above. □

WARNING



**THIS DISK WILL
GIVE YOU
HOURS OF
FUN**

**THIS DISK
COULD GIVE
YOU 6 MONTHS
IN PRISON**

If you Pirate Software you are a thief. Thieves will be prosecuted.

ELSPA
EUROPEAN LEISURE SOFTWARE
PUBLISHERS ASSOCIATION

Federation Against Software Theft
U. K.



**PIRACY
IS THEFT**

Any information on software piracy should be passed on to Computermate Australia
Phone: (02) 457 8118 Fax: (02) 457 8739.

IF YOU'VE BEEN CLEVER ENOUGH TO BUY THE WORLD'S SMARTEST COMPUTER, JOIN THE CLUB.



**MEMBERSHIP OPEN TO:
COMPANIES, INDIVIDUALS,
AMIGA USER GROUPS, SCHOOLS
AND TERTIARY INSTITUTIONS.**

BONUS GIFT



**Join Club Amiga now and receive a Textcraft
Plus or Graphicraft program at no extra charge.
(Each program normally retails for \$89.)**



**Membership includes one year's subscription to
Commodore Amiga Review and Commodore Amiga
Review Annual, newsstand value over \$42.**

By choosing an Amiga, you've already put yourself one step ahead of the average computer owner.

Because the Amiga is so much more advanced than the conventional PC, it's like comparing an old fashioned record player to a compact disc system.

In fact, part of the fascination of owning an Amiga is that we're still finding out how far we can push it.

Exciting new programs and applications are being developed all the time as we explore the Amiga's outstanding computing and graphic capabilities. That's why you'll find membership to Club Amiga so rewarding. You'll receive a Commodore Amiga Review each month and the Commodore Amiga Review annual to keep you informed of the latest developments in Amiga applications and software.

You'll also be receiving a regular Club Amiga newsletter to keep you up to date with the latest developments.

In fact, if you join Club Amiga right now, you will receive, at no extra charge, an exciting software package worth \$99.

That's worth more than half your membership fee already! That's just one of the ways Club Amiga will help you get the most from your Amiga system.

So why not do the smartest thing since buying an Amiga. And join the Club!

SUBSCRIBE NOW AND CLAIM YOUR BONUS. CLUB AMIGA MEMBERSHIP APPLICATION FORM

Name: _____		I enclose my cheque for \$180.00 and agree to be bound by the terms and conditions of membership to Club Amiga.																				
Address: _____																						
P/code: _____																						
Ph. No. _____		I authorise Commodore Computers to debit my <input type="checkbox"/> Bankcard <input type="checkbox"/> MasterCard account for the amount of \$180.00.																				
Male <input type="checkbox"/>	Female <input type="checkbox"/>																					
Age: Up to 18 <input type="checkbox"/> to 25 <input type="checkbox"/>	My card number is																					
26 to 34 <input type="checkbox"/> 35 to 49 <input type="checkbox"/> Over 50 <input type="checkbox"/>	<table border="1" style="width: 100%; height: 20px;"><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>																					
Married <input type="checkbox"/>	Single <input type="checkbox"/>	Signature: _____																				
Children 0 <input type="checkbox"/> 1-2 <input type="checkbox"/> 3+ <input type="checkbox"/>	Occupation: _____	Expiry Date: _____																				
Is your Amiga used mainly for Business <input type="checkbox"/> Pleasure <input type="checkbox"/>	I understand I should receive my CLUB AMIGA membership package within 4 weeks.																					
Bonus offer *Selection: Textcraft <input type="checkbox"/> Graphicraft <input type="checkbox"/> Neither <input type="checkbox"/>	Signature: _____																					
Club Membership Joining Fee \$50.00. Annual Subscription \$130.00.	Date: ____ / ____ / ____																					
Yes, I would like to become a member of Club Amiga.	Send to: Club Amiga, 67 Mars Road LANE COVE NSW 2066																					

**CLUB
AMIGA™**
BY COMMODORE®

ISA COM0383

Video titling with Pro Video

by George Kimpton

The home video buff has it made these days if he owns an Amiga. With the genlocks and software currently available that old home movie can really come to life.

IT IS EVEN possible to convert old 8 mm films to video and dress them up. A friend of mine has done this using a table-top back projection screen and a video camera. Home movies are now a whole new ball-game.

In the not so distant past everyone including yours truly cringed and dived for cover when others brought out their home movies. Looking at some of my old 8 mm film movies now I can start to understand why.

They were at best crude attempts at copying documentaries at the movies or on TV. At worst they were excruciatingly boring repetitions of the family albums except that these pictures moved sometimes.

One night some years ago I visited a friend who had been on a safari tour through Central Australia. I fully expected to be bored silly with his movie (8 mm. film) but I was pleasantly surprised by the way he had put it together. He had gone to considerable trouble to produce a sound track including synchronised music and commentary. To this he had added shots of maps and other information and even managed to animate progress on a road map to let us know where he was at that particular moment.

It really was an achievement at that time as inserts, titles and animations required much patience manipulating the camera and then physically splicing in the inserts. Sound synchronism was also difficult requiring the locking together of the projector film path and a separate tape recorder.

Today with a Video Camera, a Video

Recorder, a Genlock and an Amiga and software like *Deluxe Paint*, *Pro Video Plus* and *Video Effects 3D* etc. it's a snack as they say. With built in microphones and the sound digitising software available today it would also be a pretty raw novice who can't produce perfect sound effects to make the movie come to life.

Which brings us to the purpose of this story. Let's look at how to dress up your movies. In the latest *Amiga Annual* the subject of Genlocks was covered by Dave Thompson and I had something to say about animation software. This leaves us with titling programs and information overlays.

Pro Video Plus and CGI

● One of the best programs I have seen is *Pro Video Plus* which I will now proceed to dissect. I will also make some comparisons with the earlier version, *Pro*

Video CGI which comes with a fascinating demo.

Pro Video Plus can produce some very professional titling with its Hi-Res fonts and is in fact used by some cable TV stations in the States. I also suspect that it or its earlier cousin, *Pro Video CGI*, is used for the Clintons Toyota ad on TV here.

Program control is by CLI for booting and be warned neither CGI or Plus will tolerate sharing the Amiga with any other programs. Function Keys allow manipulation of the text and a wide range of display attributes. A cut-out guide is supplied and fits snugly around the Function keys making the programs easy to use once you become familiar with their quirks. However, be warned, follow screen instructions exactly and do not try anticipating things like changing disks or you will be in trouble quickly. Both programs are very unforgiving of the impatient.

Four fonts and four line sizes are provided as standard fare in *Plus*. Line heights and font sizes can be mixed as long as you don't try to use a font larger than the line size. A set of extra fonts is available at additional cost. *Pro Video CGI* only has three line or font sizes and the method of size selection is different.

Fonts for CGI are not transferable to *Plus* and vice versa. With *Pro Video Plus* if text smaller than the line size is used then sub or superscript is possible by mixing text sizes and using vertical justification. It is also possible to underline text or use italics for effect.

Today's Weather

Sunday, September 20

	Today	Avg.	Rec.	
HIGH	95°	88°	102°	(1922)
LOW	76°	70°	55°	(1975)
Humd.	61%	50%	-	
Precip.	0.3	neg	1.5	(1896)

COMPUTERMATETM

Chart

TOPPERS

FOR

AMIGA

Accessories

ACCESS 64 (A1000 only)	\$119.00
MINIGEN (PAL)	\$499.00

Productivity Titles:

ANALYZE plus Flipside	\$89.95
CAN DO	\$219.00
DBMAN V	\$399.00
DIGIMATE 3D	\$59.95
D.U.D.E.	\$74.95
DUNLAP UTILITIES	\$99.00
ENUNCIATOR	\$34.95
G.F.A. BASIC V3.5 Inc. Compiler	\$159.00
INTROCAD PLUS	\$179.00
PAGESTREAM V1.8	\$259.00
PROFESSIONAL PAGE V1.3	\$549.00
SCRIBBLE PLATINUM	\$99.00
SUPER CARD A500	\$159.00
THE WORKS	\$139.00
THE WORKS PLATINUM	\$199.00
TOTAL CONTROL DIET	\$149.00
ULTRA DESIGN	\$499.00
X-CAD DESIGNER (Reg. 1mb.)	\$179.00

Leisure Titles:

ACCORDION - Solitaire Vol. 2	\$49.95
BATTLE TANK: Germany	\$89.95
BATTLE TANK: Stalingrad	\$89.95
CALCULATIONS - Solitaire Vol. 3	\$49.95
CLOWN O'MANIA	\$39.95
CREATURE	\$49.95
DISTANT SUNS. Astronomy	\$79.95
DRAGON'S LAIR II	\$89.95
F-16 COMBAT PILOT	\$49.95
P-47 THUNDERBOLT	\$59.95
SEAHAVEN TOWERS - Solitaire 1	\$49.95
TABLE TENNIS	\$39.95
TARGHAN	\$39.95
TAROT MASTER: Read The Future	\$39.95
TRIAD 3: Compilation	\$59.95

Available at selected Amiga Software Dealers.

Distributed and Supported by:
 Computermate Products (Australia) P/L.
 9 High Street, Mt. Kuring-Gai, N.S.W. 2080.
 Telephone: (02) 457 8388 Fax: (02) 457 8739

lumn • Desktop video column

Colours

• The text colour is selected from either 15 standard palettes or user defined from 4096 colours. These palettes are also used to define shadow and edge colours. *Pro Video Plus* allows 16 and CGI eight colours. Shadow depth and direction are selectable in steps and letter edge outline thickness is also selectable. Underlining of individual letters with different colours is possible.

Colour mixing on any line is possible to create special effects. It is possible to create some very spectacular screens using the different shadow colours and sizes. Similarly outlining of either the letters or their shadows can create some very interesting effects. Carefully handled it is possible to produce some 3D type pages or lines which literally seem to jump out of the screen.

One word of warning here. It is possible to import background graphics or other IFF pictures with *Pro Video Plus* BUT both Palettes should be the same or else colour conflicts will occur. The other possibility is to use the second half of the palette for text and the first eight colours for the picture. This of course means you will need to limit colours in your pics.

Pro Video CGI will not allow Background imports. Another disconcerting effect of colour control is the ability of the incoming screen's palette to sometimes take control of the outgoing screen in some transitions when different palettes are used. This conflict can sometimes produce some strange colour combinations and totally spoil the effect you are trying to create.

Apart from importing background pics both programs allow the insertion of selected backing colour strips to accent the text. A range of selected shapes such as lines, diagonals, stars, squares and circles etc. is also supplied to dress up the screen or box or underline text.

Pro Video Plus also provides a range of grids as backing. With the instant background facility these grids or text can be turned into background patterns for the entire page. Once a screen is set up the transitions must be set to determine how the screen will appear or disappear. The speed with which this will happen and how long the screen will be displayed or dwell must also be set. Line transitions can also be set in the same way. In other words it is possible to control lines independently of page controls.

Pro Video Plus provides 32 page transitions such as, bangs, checker, compressions and expansions, fades, push or pull off, spiral, replace from top, bottom or centre, pull over from top or bottom, replace horizontal etc. *CGI* only provides 15 transitions.

Plus also allows 92 similar line transitions in-

● Desktop video column ●

cluding a user defined custom transition. Each line can have different line transition characteristics as can the pages. One very useful facility is the ability to move completed lines up or down the page after you find you have goofed and need to change the page around for best effect. This also allows the insertion of new or blank unused lines to space out a presentation.

As each page is set up it is allocated a number in a sequence up to 100. These are subdivided into blocks of ten pages for control purposes. These sequences then become part of the program which later controls the show when the Function keys are operated on cue. With Plus it is possible to set up 2600 pages in 26 banks for recall.

Selected groups of screens or pages can be set up to automatically cycle for continuous displays. With careful manipulation of dwell and transition times it is possible to set up an exactly timed sequence of pages to slot into a video on cue with single key starting.

Pro Video Plus allows for the importation and storing of IFF pictures or files. These can then be used as backgrounds for the titles or text being displayed but as mentioned above care must be taken selecting palettes as the final display will be controlled by either the text or background palettes.

When screens are completed they can also be saved as IFF files for use in other programs or for manipulation in *Deluxe Paint*, *Photon Paint* or *Digi-Paint*. Because of this ability you can use *Pro Video Plus* to produce Hi-Res screens for other programs and uses. I have used this method to produce screens for animation in *Video Effects 3D* and this will be discussed in another article about that program.

Memory

● It should be noted however that 1.5 Megabytes of memory is needed to import and store pictures for use in sequences. These pictures then reside in memory until called by the program. When loading and running previously set-up sequences the background pictures must also be loaded in the same order as before. It is also possible to create a text screen in *Pro Video Plus*, save it as an IFF page, load it into *Deluxe Paint* and manipulate it using perspective mode or whatever, resave it and return it to *Pro Video Plus* as a page. Here it can have additional text added or overlaid.

It is also possible to insert art screens created on *Deluxe Paint* as pages in a titling sequence providing they have been saved in IFF format. These screens can also be subject to the same transitions as the text pages. Control of shows is also possible by editing picture and job files allowing preset sequences to occur at the time of loading *Pro Video Plus*.

Some interesting effects can be created by using either the colour cycling or flashing ability of this program. It is possible to sweep a colour highlight across text on the screen or to have words or symbols flash on or off for special effects.

The only real complaints I have are the inability to multi-task, the rigid need to wait before changing disks and the lack of any real guidance for installation on a hard disk. With the massive amounts of memory sometimes needed to produce a lengthy lead-in for a video, use of hard disk memory is vital to store the pages. However I have not succeeded in operating either *CGI* or *Plus* from my hard disk yet.

Maybe I am just dumb, as it is supposed to be possible. I hope you have more luck.

Review copy of *Pro Video Plus* PAL from Computermate (02) 457 8118. RRP \$489.00. □

COMPUTERMATE
products (australia) pty. ltd.
presents

From the author of 'Galileo'

The basics. Space and time. From an ice-age antler minutely etched with lunar phases to the inconceivably detailed information patterns transmitted by the Hubble Space Telescope, man has sought answers to basic questions about the universe in astronomy.



The best. Turn off the lights. Distant Suns, home grown on the Amiga™, presents the subtle colours of the night sky. No other astronomy program on ANY platform can do that.

Get it. A real time machine. A toy universe for your Amiga™ – Distant Suns. Virtual Reality Laboratories, Inc.

3 additional sky scenery disks also available.

Suggested Retail

\$79.95

Distributed and supported in Australia
by:

COMPUTERMATE
products (australia) pty. ltd.

P.O. Box C64, Mt. Kuring-Gai, N.S.W. 2080.

If your favourite Commodore/Amiga retailer does not stock the particular title(s) you need, you can order them directly from us by calling (02) 457 8118 or Fax: (02) 457 8739.

Great bargains for your C64/128!
Australian Commodore Review
Disk Mags Nos 1 to 14

Disk Magazine One \$10
 Forest Raiders - shoot 'em up. Machine code paint, border, input and flash routines. Nice Lister. Recover It. And more.

Disk Magazine Two \$10
 Programs demonstrating 3D graphic plots. Terminal program. Tutorial on bits and bytes. Character editor. And more.

Disk Magazine Three \$10
 Hangman, Labyrinth, Calendar, Finance, Typing Practice, Roadblock, Bird Invaders. Constructabrix - education.

Disk Magazine Four \$10
 Graphic Workshop - complete design system - with tutorials. Typing Tutor. Directrix - disk filing. Plurals and maths.

Disk Magazine Five \$10
 Utilities for using Newsroom on an MPS 802 plus writing signs, printing Doodle and Printshop pictures. Centronics driver.

Disk Magazine Six \$12
 Games: Bert the Bug, Hangman. Demos: Space Harrier, Max Headroom, etc. Home Inventory. Graphics. Utilities. And more

Disk Magazine Seven \$12
 Anti-Isepic, Sledgehammer, Fast Format, Renumbr, etc. For 128: Bootmaker 128/64 Utility, Convert Basics utility.

Disk Magazine Eight \$12
 Track and Sector, Function Keys, Unscratched, Relocatable directory. Calendars, Chequewriter. ESCOS version 2.99.

Disk Magazine Nine \$12
 C64: 14 graphics and music demos, Little Invoicer, Sprite Clock, Sprites in the Border, games, utilities and graphics. C128: 128 Disk Filer, 128 Block Reader, Three music programs.

Disk Magazine Ten \$12.95
 Cup challenge - sailing simulation. Define your function keys. Compiled Appointment Manager. Escos with Music. Othello Look-alike. And more.

Disk Magazine Eleven \$12.95
 80 Characters, Graphic Converter, Batch line number deleter, Function key definition, System call locator. Fix directory, Text search, Disk tidy, Drive aligner. Geos printer drivers. More.

Disk Magazine Twelve \$12.95
 Appointment Manager 2.1. Third Term - comms program. Panes - windowing system. Atlantis - undersea fast action shoot-em-up. Circle Navigation, Education Programs, Music.

Disk Magazine Thirteen \$12.95
 Charles and Stowaway - adventures. Blackjack. Graphic Converter. Disk Diskassy - Disk utility. Disk Label Maker, Icon Changer. Easy DOS. Cruncher BASIC. Calc. Font Diskassy.

Disk Magazine Fourteen \$12.95
 Electronic CAD Package. Software Cataloguer. Character Thief. Pointer C64. Best single disk file copier. Never ending scroll. SEQ file readert. CompuPage - game.

To: Australian Commodore Review, 21 Darley Rd,
 Randwick, NSW 2031. (02) 398 5111.

Please send me Disk Magazine(s) No(s):

I enclose Cheque / Bankcard / MoneyOrder

Bankcard No:

Expiry Date:

Signature:

Name (print):

Address:

Postcode:

Please add \$2 for post and packing

MEGADISC

TO MAKE THE MOST OF YOUR AMIGA

New Toll-free Number for ORDERS ONLY - 008 227418

MEGADISC was designed to help you really learn how to use your Amiga. Tutorials, articles, reviews, hints and tips, useful software, and much more are included to help both the beginner and the veteran to use the Amiga more productively. Not too serious and not too lightweight, MEGADISC entertains you while you learn. Available as single issues, subscriptions of any 3 or 6 issues (past or future), or as a TRIAL PACK (including MEGADOS, our Amiga Manual-on-Disk and MEGADISC 15, and our Catalogue-on-disk). If you get a TRIAL PACK, you can subscribe later for the lower rate mentioned below. Megadisc subscribers get lower prices on all our products, including our 1000 public domain disks. Every Megadisc has the latest VIRUS-KILLER.

MEGADISC 16 IS NOW AVAILABLE!

NEW Special offers!

THE ENTIRE MEGADISC SERIES

Order MEGADISC 1-15, MEGADOS and 4 free Public Domain Disks for \$175!

That's 19 information-packed disks! (You can order your PD disks later.)

BEGINNER'S PACK - 3 DISK SET

Best of MEGADISC, Best of PD Utilities, Best of Graphics and Games in *special disk box* for \$29

MEGADOS

AmigaDos Manual-on-disk, with all you need to know about CLI, Workbench 1.2, 1.3 and ARP described in layman's terms for \$19.95. Price for current subscribers \$13.95

TRIAL PACK

MEGADISC 15, MEGADOS, AND CATALOGUE-DISK for \$29

PAST AND CURRENT SUBSCRIBERS - RE-Subscribe for less!

\$45 instead of \$50 for a 3-issue subscription (free PD Incl.)

\$80 instead of \$90 for a 6-issue subscription (free PD Incl.)

PUBLIC DOMAIN DISKS FOR \$5.50 each, \$4.50 for subscribers

All our 1000 disks are fully described on the free Catalogue-Disk

NEW PD 10-Pack (10 selected PD disks) \$55

GET OUR 'GAMES PACK' - 10 Disks full of Games - \$55

3 Disk Animation Set \$15 - 20 TOPIK Disks for \$99

WE ALSO TAKE BANKCARD, MASTERCARD and VISA ORDERS BY PHONE OR FAX
 CONTRIBUTIONS OF ANY KIND ARE MOST WELCOME - PLEASE CALL

Non-Subscribers: Please add \$2 P & P if ordering Public Domain disks only

I enclose a Cheque/Money Order for or please charge my Creditcard

Mastercard/Bankcard/Visa No: Exp:

Please send me: Catalogue-on-Disk AT NO COST: TRIAL PACK \$29

ANY 6 issues of MEGADISC for \$90 (please specify): [\$80 for re-subscribers]

ANY 3 issues of MEGADISC for \$50 (please specify): [\$45 for re-subscribers]

MEGADISC 1-15 and MEGADOS and 4 P.D. disks for \$175:

The 4 free PD disks I want (2 in the case of a 3-issue sub) are:

OR please send your Catalogue-on-Disk now and I will choose the remaining disks later:

10-DISK GAMES PACK for \$55: PD 10-Pack in box for \$55

BEGINNER'S PACK (3 DISK SET for \$29)

MEGADOS AMIGA DOS MANUAL-ON-DISK FOR \$19.95 FOR CURRENT SUBSCRIBERS \$13.95

3 DISK ANIMATION SET for \$15 20 TOPIK DISKS for \$99

Signature:

Name:

Address:

Postcode: Telephone: Date:

Send to: MEGADISC, P O BOX 759, Crows Nest 2065.
 Telephone: (02) 959 3692 (all hours) FAX: (02) 959 3525

We've got the lot!

AMIGA

Shadow of the Beast	79.95
It Came from the Desert	59.95
Fiendish Freddy	69.95
Batman the Movie	49.95
Robo Cop	59.95
Beverly Hills Cop	39.95
Pictionary	49.95
Where in the USA is Carmen Sandiego	84.95

Also:

- Lots of Educational Software
- External Disk Drives
- Memory Expansion

C64

Altered Beast	Disk & Cass
Batman The Movie	Disk & Cass
Batman The Caped Crusader	Disk & Cass
The Real Ghostbusters	Disk & Cass
Licence to Kill	Disk & Cass
Pictionary	Disk & Cass
Chessmaster 2100	Disk
Double Dragon II	Disk
Shinobi	Disk & Cass

Also:

- Disk Drives and Datasets
- Educational Software

BASF DISKS

☆ By One Get One Free ☆

BASF 3.5"

DS/DD IN CARDBOARD BOX	39.95
DS/DD IN CLEAR LIBRARY BOX	42.95
DS/DD IN RED LIBRARY BOX	40.95
DS/HD IN CLEAR LIBRARY BOX	89.95
DS/HD IN RED LIBRARY BOX	87.00

BASF 5.25"

DS/DD IN CARDBOARD BOX	19.95
DS/DD IN BLACK PLASTIC BOX	25.00
DS/DD (5 COLOURS) IN LIBRARY BOX	32.95
DS/DD IN CLEAR LIBRARY BOX	29.95
DS/DD IN RED BOX	27.50
DS/DD IN RED BOX W/DOS FORMAT	29.95
DS/HD IN CLEAR LIBRARY BOX	45.00
DS/HD IN RED BOX	42.95
DS/HD IN RED BOX W/DOS FORMAT	42.95

Offer ends Monday, April 30

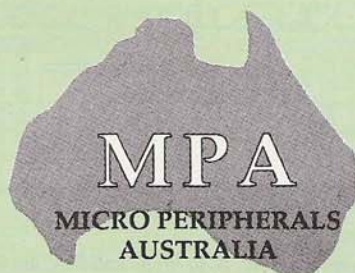
We also cater for

Apple IIG/IIC/IIGS
Macintosh
Amstrad
Atari 2600
Nintendo
Sega Master System

Other Products available;

- Joysticks
- Modems
- Printers and Ribbons
- Books and magazines
- Heaps of accessories and More

N.B. When phoning or writing for a catalogue please state the type of computer(s) you have.



Telephone (03) 752 5678

Micro Peripherals Australia, GPO Box 683E,
Melbourne 3001, Victoria

ALL MAJOR CREDIT CARDS ACCEPTED

**FREE
Catalogue!**

Prime Artifax . Public Domain and Commercial Software

Support : PHONE (02) 817-0011 *Credit Card and C.O.D. accepted over the phone.*

FREE ORDER LINE 008 252 879

Commodore 64

GEOS prices slashed!

Partner 64 - Pop up desk accessories, works with most software. Appointment Calender and Date Book, Memo Pad, Name and Address, Phone List, Calculator, Typewriter, Screen Printer and more! Five times DOS speed increase plus SwiftDOS in-built DOS commands. **\$58**

Swiftcalc - GEOS Compatible Spreadsheet. Sideays option. 250 x 104 columns, HELP screens, bar charts. Keyboard overlays. **\$38**

Data Manager 2 - Database with reports, statistics, x-searching, sorting and charting. Standard deviation. **\$38**

GEOS 64 2.0 \$59

GEOS 128 2.0 \$69

Animation Station

\$125!

Public Domain Theme Disks

UGA's Newflash - bi-monthly European hacker type magazine for the more advanced user. Glitzy presentation. Lots of info, utilities, how-to articles, reviews and more. Music and graphics too! Issue seven out now. **\$9.95.**

Double Demo Disk.

The following are all two disk sets - \$8 per set.

DD1 Newtek Demo Reel II

Digitised music from "Art of Noise" accompanies some smart digitised pictures and short animation segments.

DD2 Newtek Demo Reel III

Two disk set - animation and still demonstrating various Newtek products. Includes excellence Hi-Res HAM image. Clever animation and digitised sound effects.

DD3 Artscape rolling demo.

Excellent ray traced images. Director presentation and good digitised pictures.

DD4 Walker Demo One.

Requires 2MB. Fantastic animation of walker from "The Empire Strikes Back" passing in front of an Amiga 2000. Digitised sound effects. Very impressive.

DD5 Walker Demo Two.

Requires 2MB. Part two - narrow screen animation. Won various awards. Walker plus helicopter battle in Chicago streets.

DD6 Northstar Demos.

British and European graphic tricks, hacks and music. Many short demos on both disks - auto loading each in sequence. Some excellent, most with very good music. Clever programming tricks.

Fish Disks up to 300 now available.

HES 512K RAM expansion for Amiga 500 with clock/cal, on/off switch **\$199**

Roctec 3 1/2" external drive, daisy chainable, on/off. **\$219**

Bit Blitzer modem 300,1200,1200/75. **\$369**

Bit Blitzer modem 300,1200,2400. **\$399**

Bit Blitzer modem 300,1200,1200/75,2400. **\$439**

GP-Term terminal software-Viatel support. **\$89**

Mouse Mat.	\$8	Amiga 3-D Graphics	\$44
Starcursor Joystick.	\$49	Advanced Amiga BASIC	\$34
		System Prog. Guide	\$58
Digiview GOLD.	\$279	Assembly Language	\$29
Audiomaster II.	\$109	BASIC Inside & Out	\$42
DiskMaster.	\$59	C for Advanced Prog.	\$44
Excellence - WYSWIG/PS	\$269	C for Beginners	\$38
Pen Pal - Spell/Graphic	\$179	Desktop Video	\$38
Scribble Platinum!	\$89	Disk Drives Ins. & Out	\$48
Raw Copy	\$79	DOS Inside & Out	\$44
		DOS Manual	\$44
3-D Pool	\$48	DOS Quick Ref. Guide	\$18
Archipalegos	\$48	Amiga for Beginners	\$33
Colossus Chess X	\$58	Graphics Inside & Out	\$48
Continental Circus	\$48	Hardware Ref. Manual	\$44
Flight Sim. II	\$69	Machine Language	\$38
Honda RVF	\$58	More tricks and tips	\$38
Kennedy Approach	\$58	ROM Kernal Reference	\$58
Laurel and Hardy	\$48	Tricks and Tips	\$38
Pictionary	\$58	ART of DTP	\$34

Superbase Personal	\$59	Mac-2-Dos	\$219
Superbase Personal II	\$119	Sculpt An.4D	\$699
Superbase Professional 3.0	\$279	Sonix	\$94
The Works Platinum	\$239	Pagestream 1.8	\$249
Scribble Platinum	\$94	Page Stream Fonts Avail.	

ORDER FORM

Send cheque or money order made out to Prime Artifax, or use your credit card.

Name: _____ Day Phone: _____
 Address: _____
 Post Code: _____ Credit Card (tick) VISA ☐ M/C ☐ B/C ☐
 Number: Exp:
 Signature: _____
 Order: _____

**POST TO: Prime Artifax, 9 Augustine St,
Hunters Hill 2110**

(Allow \$2.50 for postage air mail where possible. N.T. W.A. and S.A. are \$5)



ONLY COMMODORE AMIGA MAKES ALL THIS POSSIBLE.

When you first see a Commodore Amiga you'll be amazed at how much it can do. After you've seen its capabilities you won't be surprised that over a million Commodore Amigas have been sold worldwide.

That's because Commodore Amiga is the world's most advanced home and small business computer. It is also the leader in specialised applications such as Desktop Publishing, video graphic design and music.

It talks, animates, educates. Whether you're nine or ninety, student or teacher, Commodore Amiga has the software to aid learning. As well as these applications, it offers a wealth of enter-

tainment with the latest hi-tech video games.

The potential of the Commodore Amiga doesn't stop there. Commodore Amiga has thousands of software packages available as well as a huge range of supporting magazines.

The Commodore Amiga 500 and 2000 make so much possible you're limited only by your imagination.

For further information and your nearest Commodore dealer phone (008) 023 233.


Commodore

JSA COM 0406

The Mega Entertainment Section

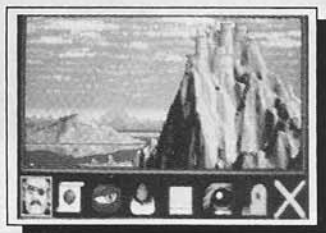
Edited by Phil Campbell

That's Entertainment

News, views and mini-reviews from all over the place.

Amos from Pactronics

● In our April issue we said that Amos, the long awaited game creation system for the Amiga, had been released by Pactronics. Unfortunately Amos has not yet been released. A demo disk showing just some of the language's capabilities is available. If anyone would care to send a blank disk Pactronics will copy the demo onto the disk and forward it straight back to them, and will advise everyone when Amos is actually released. Send to Pactronics, PO Box 101, Rydalmere, NSW 2116.



Dragon's Breath

G'day, Dragon's Breath

● No, not the ultimate insult for a halitosis sufferer - *Dragon's Breath* is a top class new game from Mindscape that's scored rave reviews in the overseas press. I can see why! Set in the mythical land of Anrea, you play the part of Bachim the Alchemist, Oureod the She-Vampire or Ametrin the Green Beast. Your task is to seek out the three parts of a talisman that will give you entry to the ancient throne room. First though, you'll need to breed some dragons, 'cause as we all know, once you find a talisman you've got to have a dragon to guard it. Mmmm? The fact is, the graphics I've seen in my first five minutes with the game are awesome. The music is dark and foreboding. And the gameplay is totally icon-controlled, so it should be easy to play. Looks like a certain winner! Stay tuned for more details.

Cinemaware moves house

● Yes folks, Cinemaware, long the

flagship of the Mindscape software range, has moved to Questor. This is a major coup for the guys and gals at the big "Q", though Mindscape are putting on a brave face. "We've still got some huge names," says Mindscape's Craig Kingshott - "and we keep the rights to some of our existing Cinemaware titles." That's life, I guess. Just so long as somebody is selling my favourite games I won't complain.

Press kit of the year?

● Wow! Questor have just sent me the glossiest, fanciest press release I've ever seen. It's all for a game called *Elvira, Mistress of the Dark*. All a bit off colour, featuring a buxom wench on the front who has apparently got quite a reputation - sort of in the same vein as Morticia in the Adams family. Must be quite a game, but I'm sick to death of occult games that talk about things like "devil worship and other satanic ceremonies." Nice looking press release. Shame about the contents ... stay tuned for a closer look next time.

Big awards for Aussie SSG

● In the past 12 months Australian software house SSG has really cracked the overseas market. Specialising in strategy games, the company has many prestigious awards to its credit. *Rommel* was awarded "Best Military Strategy Game" by *Ahoy!* Magazine and "Best Military Strategy Game" by *Dragon Magazine*. *Reach for the Stars* was included in the *Amiga World* magazine's list of the 20 best games of 1989. Congratula-

tions, guys - keep up the good work.

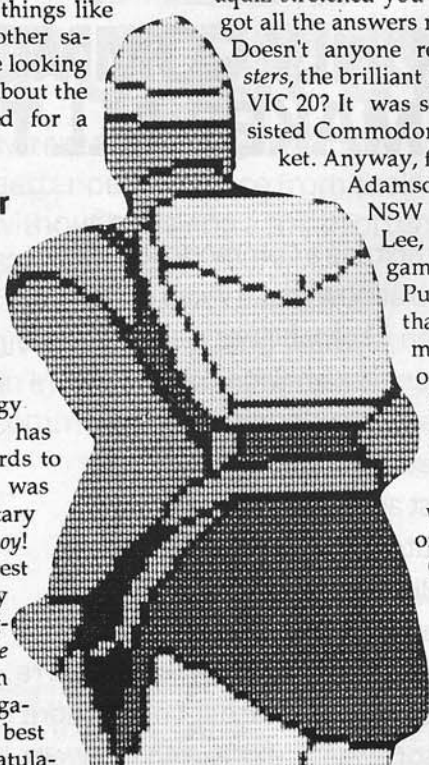
Dragon's Lair II arrives

● Amazing scenes fill my screen as the sequel to *Dragon's Lair* rattles into life - this one is subtitled *Escape from Singe's Castle*, and it picks up where the original left off. Not only that, it seems that it corrects every possible weakness in the original. Critics complained that *Dragon's Lair* could not be installed on a hard disk because of the special disk format that was adopted. Get this. Not only can you instal part 2 on a hard disk, it also tweaks the original so you can transfer it as well and make one huge mega-game. Still darn hard to play, though - I'm stuck on the first scene as usual, even though there's now a hint box which shows you which way to push your joystick. Top effort from Questor, with the five disk game priced at \$89.95.

Megaquiz winners

● Well, looks like our February Megaquiz stretched you to the limit. Nobody got all the answers right - shame on you. Doesn't anyone remember *Jelly Monsters*, the brilliant *Pac-Man* clone on the VIC 20? It was so good that Atari insisted Commodore take it off the market. Anyway, first prize goes to Lee Adamson, of Winmalee NSW - congratulations Lee, a bundle of Amiga games are on their way. Purely on the grounds that his entry was the most entertaining, second prize has to go to Stuart Elflett of Toogoolawah, Qld, who will soon find himself with a somewhat smaller bundle of games for his trusty Commodore 64.

Thanks to all those who entered, and to Questor, Mindscape and Pactronics for providing the prizes! □



Letters to the editor



Dear Sir,

● I really enjoy your mag, and think that it gets better every issue. However, I would like to forward some suggestions to you. When you review games (more reviews please!) why not mark them out of 10 or 20 or even break the games up into parts - eg, Graphics, Sonics, Gameplay, Addictiveness, Value - and mark them all out of 10. I have enclosed some Pokes and a map for *Batman*. I hope you can publish them. Also, could you please tell me where I can get a copy of *Maniac Mansion* by Lucasfilm games. I'm desperate.

Tim Gorlick

Ed: Well, Tim, I'd give your letter about a 7 for addictiveness, 8 for sonics - cause what you said sounded pretty good - but only about a 4 for graphics, because your BATMAN map wasn't quite good enough to reproduce in the mag. We need straighter lines, blacker blacks, and the blues and browns just won't come out on the reproduction. Sorry. As to scoring, we'll give it some thought. The problem is in getting some standardisation between our reviewers. I'll work on it. Your Pokes will appear over the next few months.

Dear Sir,

● I'm replying to Vanessa van der Hayden's letter about *Bubble Bobble* on how to kill the end guy in the March issue. To beat the end guy you must get one of the lightning potions which then lets you fire lightning bubbles instead of normal bubbles. Blow heaps of them into a big group and then pop them so they hit the big guy. Keep on doing this until he dies.

Also, has anyone got a cheat for unlimited energy for *Operation Wolf* for the Amiga 500 as I can't pass the boss at the end of level 2. And by the way, great mag, guys.

Tim Bruhn (12)
Mandurah, WA

Ed: I'm sure Vanessa will appreciate the tip. It's readers like you who make this such a great magazine - after all, who can beat thousands of readers who are always ready to help one another out! Thanks for taking the time to write.

Dear Phil,

● I have in my possession a copy of *Vegas Jackpot* that I have been trying to swap or sell for quite a while. I'd be happy to part with it for a moderate sum if you will pass my address and phone number on to the person concerned. My number is 099 215952. I would also be pleased if you'd give the above info to anyone looking to swap or buy original software with paper-

work. I've got games and utilities that I no longer need. Thanks for your help.

P Taaffe
PO Box 1390
Geraldton WA 6530

Ed: Thanks for the offer - I think we've already fixed up our reader who was after Vegas Jackpot, but who knows ... maybe there are other readers who would like to get it touch.

Dear Sir/Madam,

● I am writing to you for information on entertainment and views on the Amiga 500. I know nothing about computers and I am looking for advice on where to start and what to do and what is available. I saw your ad in ACAR, Phil, and am looking forward to hearing from you and hope you can help me out.

Mr J Perry
Fairfield West NSW

Ed: First things first. I'm definitely not a madam! Second, you'll need to ask yourself why you want a computer. If it's entertainment you're after and you can afford an Amiga 500, then go for it! You won't find anything better. So shop around - visit some of the computer shops that advertise in this magazine, and tell them I sent you. They'll give you good advice, and you'll be able to see for yourself what an Amiga can do. If you can't afford the Amiga - and remember you may need a monitor and second disk drive - then look at a Commodore 64 or 128D.

Dear Mr Campbell,

● I'm just writing to give you some tips on computer games. I like your magazine because it's Australian, not like the English junk we get. I was just wondering if you could give me an address so I could get some clip art for GEOS.

Troy Morrison
Mildura, VIC

Ed: Thanks for the hints and tips Troy. Yours is one of those letters that really should have gone in the other section of the mag ... well, part of it should. After all, what do I know about GEOS and stuff like that? This is the entertainment section - we don't talk about anything useful. Try phoning PRIME ARTIFAX on 02 817 0011.

Dear Sir,

● I have included some high scores and tips. I also have a question. If you suddenly got a brainwave for a great new game or peripheral, how would you go about making it a reality? Keep making a great mag,
Justin Wylie,

Ed: All depends, Justin. For example, if you've got a great software idea you could either program it yourself or speak to a local software house like MicroForte in Sydney. A hardware idea is a bit more tricky. You could talk to manufacturers like HPD in South Australia - they usually advertise in this mag - or again, at least try to build a working version yourself.

If you don't know enough to do that, then chances are your dreams will stay just dreams. Maybe the best thing to do first up is join a local user group and talk to some experts there. Drop me a line with a few more details if you are really serious.

Dear Sir,

● Can anyone help me with the SYS number for *Miami Vice*? All I can get is the starting screen, then it jams up.

Nick Van Heeswyk
Mt Gambier, SA

Ed: Calling all cars ... anyone out there who can help Nick? He deserves it - he's also sent in a heap of hints and tips. Besides, we spelled his name wrongly in the last issue. Sorry Nik. Oops. Nick.

Corish's COMPUTER GAMES GUIDE HINTS, TIPS & POKES For your favourite computer

- * Do you suffer from stress, ulcers or going grey from trying to solve the latest game? Then this is the book for you.
- * Over 300 pages.
- * Over 600 games.
- * Over 150 adventures.
- * Over 5,600 hints, tips and pokes.
- * If you have a C64/128 or an Amiga this is essential for your games collection.

**Distributed by
Pactronics.**
Available from all good book stores, Computer Spot (all branches), Grace Bros, Myer, Harvey Norman, John Martins, Harris Scarfe, Maxwell's Office Equipment and all good computing retailers.

Corish's
COMPUTER GAMES
GUIDE

*Hints, Tips & Pokes
for your favourite computer*

• AMIGA	• C 64
• AMSTRAD	• SAGA MEGADROME
• BBC	• C 128
• SAGA	• SPECTRUM
• C 16	• PC
• MATHINGO	• PC ENGINE
• SGA	• ATARI 31

Pactronics

Dear Sir,

● A while ago I achieved a high score on *Pacmania* of 678240. I would like to know if this is still a high score as I could not find the high score page in the March edition. Did you actually print one? Anyhow, I have been meaning to tell you, that apart from this small error I find this to be a

brilliant magazine and really helpful in purchasing software. One favour to ask. Could you please tell me the names of all the Sierra Games there are? I would appreciate it greatly. Another favourite of mine, which I purchased after reading your review, is *SimCity* - I haven't succeeded in creating a huge metropolis yet, but I intend

to soon. Thanks for the great magazine,
Stefan Lamont, Ballarat, Vic.

Ed: In answer to your questions: Yes. No - sorry. Thanks. No, I can't remember, except for Space Quest 1, Space Quest 2 and Police Quest - sorry. Glad you like SimCity, so do I. Our pleasure, thanks for buying it. □

Amiga Hints and tips



Space Ace solution continued ...

● Last month we printed the first instalment of Geoff Suttor's solution to *Space Ace*. Read on for some more:-

Scene 9. As Dexter runs towards the monster go DOWN then LEFT straight away.

Scene 10. As soon as the tentacle grabs Dexter's leg press FIRE to blow its head off.

Scene 11. When the first blue cat-person creeps up behind Dexter go UP to avoid death.

Scene 12. Go UP as soon as the dogs appear.

Scene 13. Go RIGHT at the junction to avoid the dogs.

Scene 14. Wait until Dexter jumps. As soon as he is in the air, press UP to escape as the dogs get fried.

Scene 15. Go RIGHT to avoid being shot by the guards.

Scene 16. Go LEFT when Dexter is nearly at the end of the corridor.

Scene 17. Same as above.

Scene 18. Bad luck - you'll have to wait till next month!

Led Storm

● Matthew Mantle advises that if you type DAVID BROADHURST WANTS TO CHEAT you'll get infinite energy.

Thunder Blade

● Jason Strudwick says that you can use the HELP key to move between levels if you first type CRASH on the helicopter picture in the title sequence.

Better Dead than Alien

● Jason also says that typing CHAMP on the options screen in this one activates the cheat mode - press the HELP key, then FIRE BUTTON to find out what to do next. □

Commodore 64 hints and tips



Commodore 64 Rolling Thunder

● Glen Robinson says that POKE 33570,173 and SYS 33570 will give you unlimited lives.

Cosmic Causeway

● Also from Glen, POKE 14978,234

then POKE 14979,234 and SYS 8608 for infinite time.

Monty on the Run

● Nick van Heeswyk says you should POKE 3086,169, POKE 3087,0 and POKE 3088,234, then SYS 2064 to restart without sprite collisions.

Operation Wolf

● Robert Cristafio sent these useful Pokes for OP-WOLF.

Poke 36007,165 for infinite lives

Poke 35107,173 for infinite cartridges

Poke 35103,165 for infinite bullets

and

Poke 34952,165 for infinite bombs

Restart the game with SYS 16960.

Living Daylights

● Yep, it's Nick van Heeswyk again - this time he says Poke 4390,238 and SYS 4352 for endless lives. □



Hall of Fame



Amiga

Arkanoid - 976,548 Kamikaze Andy
Bubble Bobble - 1,200,460 Vanessa van der Heyden
Blockout - 36,455 David Marsh
Continental Circus - 290,000 Phil Campbell
Crazy Cars - 34,920,680! Daniel Harrison
Denaris - 53,900 Peter Evans
Dragon Ninja - 105,030 R Zagami
Double Dragon - 116,204 R Zagami
Gee Bee Air Rally - 307,466 Kamikaze Andy
Hybris - 1,618,452 Matthew Mantle
ISS - 1,420,450 G Smyth
Karate Kid II - 52,000 Robert Dunn
Leatherneck - 83,300 Owen Webster
Major Motion - 50,658 Owen Webster
Menace - 996,481 Kamikaze Andy
Mindwalker - 306,214 P Schumacher
Mousetrap - 64,817 Matthew Mantle
Operation Wolf - 344,800 John Boyle
Outrun - 8,710,989 Daniel Harrison
Offshore Warrior - 626,345 Jacob Booth
Pacmania - 678,240 Stefan Lamont

Pioneer Plague - 35,412 Keir Sooby
POW - 106,065 R Zagami
Rampage - 111,600 Kamikaze Andy
Sidewinder - 385,800 Ian Malcolm
Silkworm - 913,700 A J Dunstall (Hell), 474,800 T Mason (Jeep). All 11 levels completed.
Speedball - 10,335 GS and PS
Starwars - 2,296,786 Ian Malcolm
Sword Of Sodan - 364,750 Kamikaze Andy
Test Drive - 103,981 Daniel Harrison
Test Drive 2 - 292,086 David Marsh
Tetrix - Level 100 Luke Tattersall
Typhoon - 54,255 Owen Webster
Whirligig - 7,428 Jonathan Scowen
Xenon II - 378,909 Kamikaze Andy

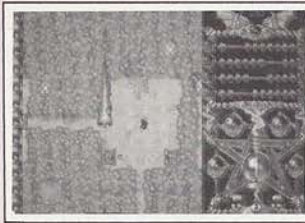
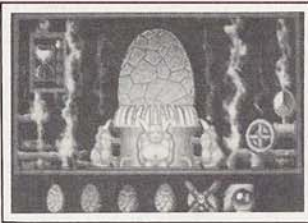
Commodore 64

Bangkok Knights - 36,800 Nick Van Heeswyk
Bomb Jack - 344,560 J Jacobs
Bubble Bobble - 1,009,857 Kishore Ladbey
Buggy Boy - 118,750 Paul Millward
Double Dragon - 17,340 Paul Millward

Double Dragon II - 255,190 Nick van Heeswyk
Fast Break - 136 to 9 Chris Byrne
Giana Sisters - 69816 Nick Van Heeswyk
Gryzor - 203,900 Paul Millward
Handball Maradona - Level M Nick Van Heeswyk
Hawkeye - 59,000 Nick van Heeswyk
Ikari Warriors - 195,000 Troy Morrison
Int. Karate - 139,300 Paul Millward
Last Ninja II - Completed 34.2 sec Nick Van Heeswyk
Operation Wolf - 168,789 Kishore Ladbey
Outrun - 6,438,787 Kishore Ladbey
Paperboy - 4,650 Chris Byrne
Que-dex - 639 Chris Byrne
R-type - 684,200 Nick van Heeswyk
Robocop - 82,250 Tim Lockwood
Rolling Thunder - 222,740 Iceman
Salamander - 235,300 Paul Millward
Street Fighter - 127,050 Chris Byrne (clocked)
Super Cycle - 136,500 Kishore Ladbey
Thunderblade - 63,000 Troy Morrison
Thundercats - 57,500 Chris Byrne
Target Renegade - 330,450 Chris Byrne (clocked)
Wonder Boy - 237,650 Kishore Ladbey

Mindscape competition of the month

● This month we've got two copies of *Dragon's Breath* to give away, courtesy of Mindscape - sorry, Amiga only! Something for C-64 readers next month, we promise. Simply write to **Phil Campbell**, PO Box 23, Maclean, 2463 and enclose a one paragraph story with the title "What I'd do if I had *Dragon's Breath*." The prizes will go to the two funniest entries received by May 25th, so get moving! □



FREE SOFTWARE

The best of every imaginable type of public domain and shareware programs from GAMES to ASTRONOMICAL packed on each and every disk for the C64/128 and AMIGA users at just \$5 per disk selection!

Your \$50 membership fee gets you all this!

● **10 FREE disk selections** of your choice!

● **FREE access** to the Island Bulletin Board System on (03) 742 39931 (visitors welcome)

● **DISCOUNTS** on an extensive range of Commercial Software & Hardware for your Commodore!

● **FREE postage and MORE!**

Full money back guarantee if not satisfied, 100s of more than happy members can't be wrong!

[] Please rush me my membership to ISLAND SOFTWARE CLUB.

[] Rush me my FREE information kit on ISLAND S'WARE CLUB

Computer type: _____

Payment [] Chq./M.O. [] Credit card

Card type: _____

Card Number: _____

Expiry Date: ____/____/____

Name: _____

Address: _____

_____/P/code _____

Post to: **FREEPOST 49** (use no stamp)

ISLAND SOFTWARE CLUB

P.O. BOX 381, WERRIBEE VIC 3030

Or call: (03) 741 9981

Cockroach Software

PO Box 1154
Southport 4215
(075) 916 188

Cockroach \$42.00
Turbo Rom inc postage

Cockroach \$69.95
Graphics inc postage
Utility

Turbo Rom cartridge
now available \$40.00

ROSENEATH COMPUTERS P/L

Freepost 6, P.O. Box 506
Engadine 2233. Ph: 520-2933

Now Available, the Autumn Catalogue-on-a-disk for the Amiga with over 1,000 items for the Amiga including Modems, Monitors, Hard Drives & Software. Send \$3.00 for the Disk or get it free with any order over \$50.00. The Disk can be updated for free anytime.

We accept payment by Bankcard, Mastercard & Amex.

MEMORY CHIPS FOR AMIGA USERS

DIP / ZIP	SPEED	120ns	100ns	80ns
411000		11.90	12.60	13.20
414256		11.90	12.60	13.20
41256		3.80	4.10	4.80
41464			4.10	4.80
4164		3.50	3.80	4.00

Sales Tax 20%

Overnight Delivery, credit cards welcome
Phone for pricing SIMM/SIPPS/
COMPAQ/PS2

pelham PTY LTD

Tel: (02) 427 0011 Fax: (02) 428 5460

Printer Ribbons

COMMODORE		Epson FX/MX80	13.50
MCS 810/20	16.95	Epson FX100	15.50
* colour	17.75	Epson LX800	13.50
MPS 801	11.75	Epson LQ500	15.00
MPS 802	12.00	Epson LQ1000	17.00
MPS 803	11.00	OKI 183	12.00
MPS 1000	8.75	P'sonic/Logitec	12.50
MPS 1200	12.50	Riteman C+/F+	16.00
MPS 1230	26.50	Star NX10	12.50
MPS 2020	20.25	Star NX15	14.75
* 4 colour	28.50	Star N24-15	18.95
TP 8023P	15.50	Star NX1000	8.75
VIC 1520	16.50	* 4 colour	22.50
		Star NX24-10	18.50

- quantity discounts for 6+, 12+, 24+
- many other types available
- single colours available at a surcharge
- all these (except MCS 810/20) recyclable (reink or reload)

D-I-Y RIBBON RECYCLING

REINKING MACHINES :\$190

ROLLED RELOADS to fit most cartridge types (black, colour, 4-colour): POA

Lazarus Ribbons

70 Wolseley Rd tel: (02) 960 2737
Mosman NSW 2088 (008) 24 9991
fax: (02) 968 1276

Pro Tennis Tour



Linesmen ready? Ball boys ready? Players ready? Phil Campbell gets into his whites to play a few sets.

NO DOUBT ABOUT it, tennis is a game of love. Fifteen-love. Thirty-love. Forty-love. And game. You might love it, you might hate it, but over the last few months there's been no way to avoid it. Tennis. The Australian Open. And worst of all for us frustrated amateurs, the guys on TV make it all look so easy.

Real life is far different. Most of my tennis playing career was spent chasing balls across neighbouring courts - excuse me please - retrieving balls from over the fence, and generally hitting balls anywhere except where I expected them to go.

Mind you, I did have one brief moment of glory, and I have the trophy to prove it. "Under-16 Doubles Champion." Nobody was more surprised than myself ... it just shows what you can achieve by choosing the right partner and then keeping well out of the way.

Tennis, though, is a wonderful sport, and in one form or another it has been simulated by computer programmers for years. The history books tell us that one of the very first video games - even before *Space Invaders* - was a game called *Pong*. The name referred not so much to an awful smell as to the reciprocal of

"ping" - it was a simple version of video ping-pong, with two players controlling paddles at opposite ends of the screen. Black and white, two rectangles and a bouncing square, the occasional "bip-bop-boop" for sound effects, and the world was immediately addicted.

These days things are a bit more sophisticated. *Pro Tennis Tour*, an Amiga game distributed by Questor (ph 02 6627944) is just about as real as you could imagine. *Pong*'s squares and rectangles are replaced by life-like animated players, the bips and bops by the thwack of ball on racket and the roar of an appreciative crowd.

My first game is in the qualifying round of the Australian Open - Campbell against the little known Walter Rabbit. The court is shown in perspective view; I am at the bottom of the screen and my opponent is at the top. By now, the crowd is hushed. The air is tense. The game begins.

I press my joystick button to serve, aiming a cross-hair into my opponent's court and releasing the button at just the right moment. Rabbit returns my serve as I push forward on my joystick and race to the net. With perfect timing I intercept

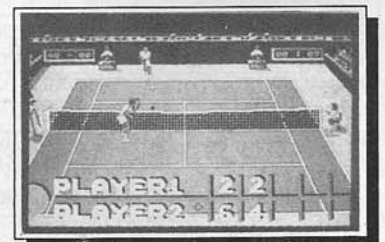
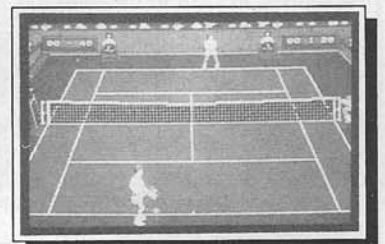
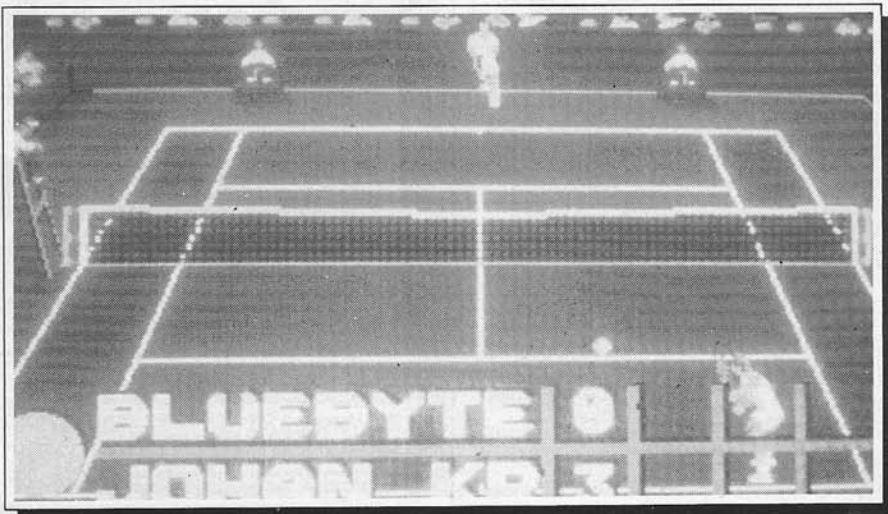
the ball - button pressed for the back-swing, button released to hit. The ball flashes across the court, leaving Rabbit quite bewildered. Fifteen-love.

My eyes gleam as I let go another sizzling serve. The serve is wide. The second serve finds its target, and the point is battled out in a long and painful rally - not quite as painful as the real thing, but my wrist is getting a little tired from holding the joystick. I guess I'd better take it easy for a while. I'm not as young as I used to be.

Pro Tennis Tour is a top class game. Graphics on my Amiga are first rate, and animation is smooth and convincing. If you watch from a distance, it looks like a real game of tennis on the telly - the players stride around the court with ease and grace, and their strokes are smooth and well rehearsed. Sound effects are digitally recorded samples of real-life tennis sounds.

This game will do for tennis what *Leader Board* and *Mean 18* did for golf - it's an excellent simulation, absolutely engrossing, with a very realistic feel. *Pro Tennis Tour* is dangerously addictive - simple to learn, hard to master, and almost impossible to switch off. And best of all, you can't be sent off for using abusive language.

Review copy from Questor. RRP Amiga \$49.95, C64 cassette \$39.95, disk \$49.95.



SKIDOO

AMIGA

Steve Pike finds himself on some thin ice as he enters the Skidoo world championships. Join him as he races through the snow...

I AM ON the border of the Arctic Circle in Canada sitting on my skidoo. A skidoo, for those who haven't met one, is a snow scooter - a motor bike on skis. I'm here to compete in races throughout the Canadian Territories, accumulate points, and become Skidoo World Champion. To do this, I have to reach the cities where the races are, with only a grid map to help me.

When I reach a town, I buy a ticket and enter a circuit race, confined to the town streets. When I win the race (not if), I receive a trophy, a write-up in the local rag and an absolutely terrible fanfare. If the race has been nominated as a championship race, I also earn championship points.

On board my skidoo I've got a compass, grid readout, speedo, calendar and a damage alarm - better equipped than your average battleship. Although it is a great machine, it still needs petrol, so if I get caught short, I may be able to get some from an igloo along the way. Hitting too many bumps can knock out the instrumentation, so be careful.

If the alarm goes off, don't rely wholly on the dashboard - make a bee-line to

the nearest town for repairs. It's best to give the skidoo a service at each town - getting stranded in the snow is bad for your health. You could use your flask of spirits to warm you up; it will help a little bit, but you shouldn't drink and drive (you won't survive!).

Snow heaps and ski-jumps are fun, and they're a useful way to avoid other obstacles. Icy lakes are very cold and not much fun, so either go the long way around or be extremely careful. In the instruction booklet, it says you will run into a signpost telling you of the city you have entered. Once in town, you'll see a grocery store, a garage, and a racing shed. Pushing the joystick in any direction will get you into the corresponding store.

If you get into the situation where you need to hunt, watch for obstacles and keep an eye on the grid co-ordinates, so you don't get lost. Alternatively, if you see an animal cross your path and just want to try your luck, grab your rifle and go for it.

The snow isn't the place to be if you don't appreciate silence. Hence, the only sounds in this game are those you make

yourself, eg excited yelps as you lose control over a jump, the skid of an out-of-control skidoo and the crack of thin ice. However, too many sounds would seem out of place up in the Arctic Circle. Listen for the opening music during the introduction - it is interesting, to say the least.

Similarly, graphics are relatively sparse, but you do get to see trees, igloos, and carcasses frozen in the ice. During the races you see the cities' outlines and who you are racing against, but mainly you see snow (what else would you expect?). The graphics can be blocky at stages, but being a simulation you tend to sacrifice beauty for gameplay, although a nice balance is delivered here. I found myself not looking at the graphics, but concentrating on the grid map and the racetrack, and generally getting very involved in the science of it all.

This game is one for those sports fans who want something a bit different, and even for those who don't get to go skidoo-ing in the Arctic Circle very often. It's best not to dawdle, you don't have unlimited time, and more importantly you must be very competitive to continue from one race to the next. One word of warning - it takes a while to complete the game, if you ever get to, so if you're not sure you have the time to play, have a game of *Monopoly* instead.

Review copy from Pactivonics. RRP Amiga \$39.95, PC \$39.95. □

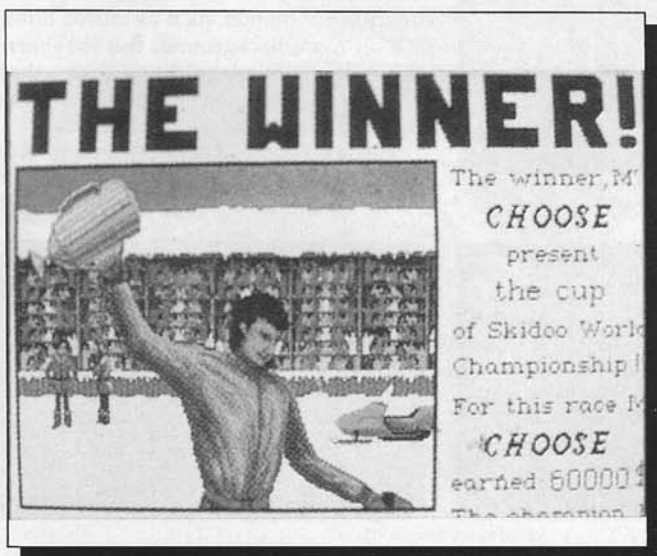


Table Tennis AMIGA

Table Tennis ace Ken Simpson fronts up to the green topped table to try his hand at this top class sport-sim ...

I HAVE ALWAYS been a sucker for the topspin smash. If somebody laid me up anything even vaguely like a lob my animal instincts would come to the fore and I would thump that ball! As a teenager, table tennis was one of my favourite indoor sporting games so a new table tennis simulation from Starbyte quite took my eye. Many reservations flashed through my head. How would they make it realistic? How will you control the ball? What will the opponents be like? After all, some of the first games ever written for computer were based on ping-pong and, to be honest, were about as much like it as a paddle-pop canoe is to a US nuclear aircraft carrier!

When you boot the game (thankfully from a disk with a standard bootblock) you get quite a classy intro. Feels good so far. Then you are presented with a screen menu with two options - training or competition. The training menu then takes you to a new menu screen with different play types available - do you want to practice slices, topspins, hard and straights or variable shots? Whatever you then choose is served up to you by the service machine. So you can practice to your heart's content. But don't get your hopes up.

About this stage I thought - "Fine, I'm ready", so off I went to the competition menu, chose my bat and grip and then my opponent from quite a formidable list (and they are all different in the way they play) and got ready to start. Moments later, I knew I was in deep trouble - 20 to nil. A do or die effort gave me the next point, but 21 to one is only slightly better than 20 to nil.

It was only when I got back to the selection screen that I realised I had just been playing Mr Topspin, the top ranked player in the world. Maybe I'd have a better chance with Deng Li, a bit further down the list. Twentyone five this time. Getting better and choosing the right bat made quite a lot of difference.

There are six available combinations of bats and grips, some are easy to control and others harder. My favourite after a while was Nops inside defence. Easy to control, slow, good for slice defence but with the option of a good topspin!

Control is much easier with the mouse. You can play it with joystick, but you lose the direct feel of the movement and the computer makes random choices about the direction of the return that you can make when playing with the mouse. To play you actually move a hand holding a bat to hit the ball and then you have four options of the type of stroke to play. You can do nothing and just block the ball back, you can press the left mouse-button for the slice return, both mouse buttons for a high speed straight stroke, or the right mouse button for the seductive topspin smash. All of these can be used for service as well as general play, though I found it considerably harder to do it in service, so most of the time I just block served.

There are lots of options in gameplay, including doubles, as well as an option to play someone else. Doubles is much easier than singles to do well at as you are able to pick your opponents as well as your partner. Unfortunately I haven't been able to play "another person" yet.

Table Tennis lacks some of the real class touches that could make it an outstanding simulation such as crowd noise or a bit more background. But for sheer, addictive gameability (like that word?) I haven't had something I have enjoyed so much for a long time.

Review copy from Computermate.
RRP Amiga \$39.95, ST \$39.95. □



AUSSIE GAMES

SIX WACKY SPORTS FROM DOWN UNDER!



Believe it or not, Aussie Games is not an Aussie game. It's actually a Yankee game with an Australian flavour. **Tony Smith** plays along.

THE INSTRUCTION BOOKLET for *Aussie Games* is written in a semi-strine language something like our own - very entertaining reading! At least, they refer to themselves as "seppos" - a wry grin crossed my face before I continued.

The glossary itself is a gem and some of the word usage is a little quaint. "Having an ESKY full of TINNIES and some VEGEMITE will help the time go by." And did you know that we Aussies reckon Beach Football is a "SWEET game"? Then there's the classic from Marlin Fishing - "Get your QUEUE ready." The glossary meaning for QUEUE is 'line' - I guess as in "standing in a line, standing in a queue!" I hope the "seppos" can understand it.

The games are divided into six events, The Belly Whack (flop), Beach Footy, Boomerang Throwing, Boat Race, Beer Shoot and Marlin Fishing.

The Belly Whack is set in Sydney - by the careful timing of a moving bar, the beer-bellied blimp is inflated by deep breathing, then launched horizontally into the harbour in a quest to make the biggest splash. Scoring is by koalas and possums hanging from trees and holding score cards.

Melbourne town comes next with a "sweet" (sic) game of beach footy. Well timed kicks send the ball flying above all the 'good sorts' (sorry ladies) and at the other end, your mate catches it.

This is quite a good game, similar to the frisbee throwing in *California Games*.

Into the bush for the next event, this time it is boomerang throwing. Sadly, the upper half of my aborigine was missing, so I was forced to make an estimation on behalf of the rest of him. The concept is good with the trajectory of the boomerang well illustrated by some nifty scrolling graphics.

"AYRES" Rock, sorry Mr Ayer, their spelling, not mine, is the next venue. The great Australian dry river boat race is a real joystick rattler - make the men run and jump over obstacles while you avoid small animals. If you stumble there is an interesting little scene involving your head.

North to the Top End is where you go to the next event, the Aussie Safari, speeding along in the back of a moke through the bulldust and potholes. The passenger in the front tosses empty stubbies high into the air - your task is to shoot them with your shotgun. This is

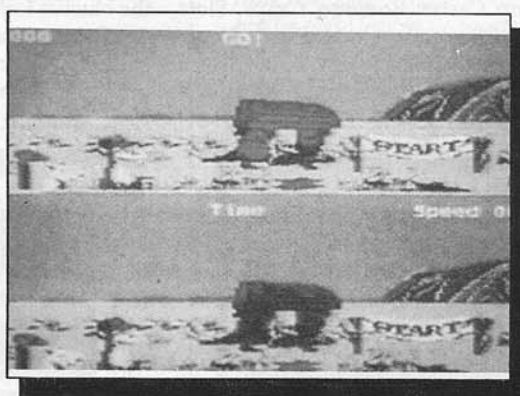
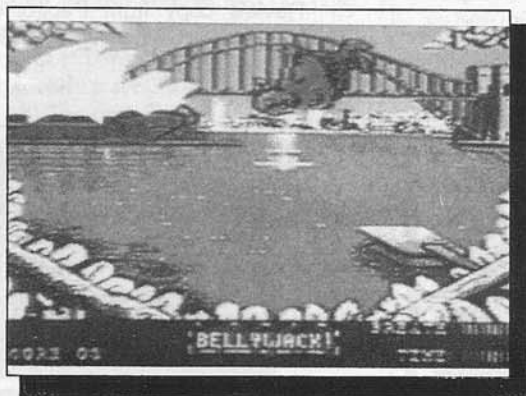
my favourite event in the games, a quick reflex shooting game, made harder by the swerving of the moke and the height of the "sodas" making them very difficult to hit. Added features include a cocky which flies across the screen. It can be shot but only results in one less shot for the game, 40 shots and 40 bottles being the limit. This segment would have made a fine game on its own.

Cairns is the spot for game fishing and that's what you must now do, another enjoyable and difficult game, more points being gained by using lighter lines or "queues."

Aussie Games will keep you occupied for a while with some very good and some not-so-good games. The graphics are good except for a few annoying glitches and some missing parts. Unfortunately the sound is terrible, the aboriginal didgeridoo music is ghastly and if anyone can stand the music from Belly Whack for more than five minutes I would like to meet them!

Loading is quick between games and with plenty of options including practice and team modes. The Aussie Safari is the biggest event with mascots and teams of up to four players. I really expected better from Mindscape after their other fine products but I'll give them the benefit of the doubt and enjoy the good bits. Thanks for the manual though - it was a million laughs.

Review copy from Mindscape. RRP C64 \$49.95. □



Trump

AMIGA

Maybe gambling could be called a sport - maybe not. But we'll throw this one into our sport-sim special anyhow! **Andrew Baartz** saves himself a lot of cash by gambling with his computer ... read on to find out how.

I'M A FAN of James Bond. But after watching hours of the Commonwealth Games I came to grips with the fact that I am dreadfully out of shape. The only activity in which I could possibly keep up with 007 is gambling at those ritzy casinos dotted around the world. One of those casinos could be the Trump Castle, an hotel and casino (by the bay) somewhere in America.

The game *Trump Castle* is based on the real thing and is the finest gambling simulation available. With accurate house rules, table limits, genuine random outcomes and a great user interface, it's all a little too realistic for comfort. A Bankroll of \$10000 is more than enough to get you started, but as you attempt to break the casino you'll be glad it's only a simulation (at least until you get the feel of it - then you'll be dying to get to Jupiter's or Wrest Point!).

There are six major games available at the Trump Castle: Roulette, Craps, Slots (we call them poker machines), Keno, Video Poker and Black Jack. Keno was a game that I hadn't heard of previously,

so I gave it a go first. It's a bit like our lotto. You choose between one and fifteen numbers between 1 and 80, then the computer chooses 20 numbers, and calculates the pay-off odds according to how many of your numbers were selected. I lost a small fortune here, so I shuffled across to the Black Jack table.

At the card table you really begin to appreciate the authenticity of *Trump Castle*, with insurance bets, doubling down and splitting pairs. Luckily the manual has a thorough explanation of all the rules and idiosyncrasies. I kept thinking back to that scene in *Rain Man* where Dustin Hoffman kept track of the cards as they left a six deck shoe. I reckon it's impossible. Nevertheless, I did develop a great deal of Black Jack skill after sustaining some pretty savage losses. After a lot of hard work (and adrenalin) I left the Black Jack table with my fortune restored, only to go elsewhere to pursue the elusive fast buck.

On my way to the Roulette wheel I stopped off at a few pokies. There were nine to choose from with a variety of ad-

Castle

vantages and attributes. They took up to five coins and the pay-off tables looked great. But I quickly discovered why they are called "one-armed bandits".

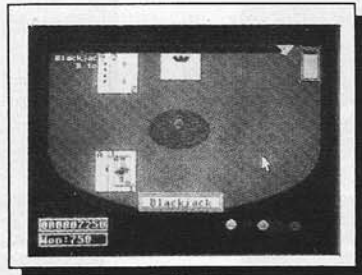
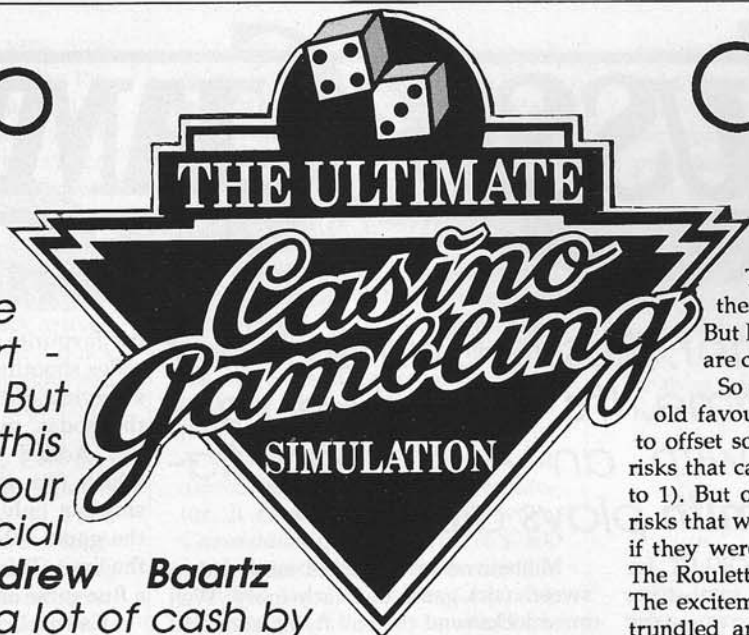
So on to the Roulette wheel, an old favourite. It has plenty of options to offset some of the pretty extravagant risks that can be taken (odds of up to 36 to 1). But on the other hand, they were risks that would yield handsome returns, if they were to come up. And they did! The Roulette wheel was my lucky break. The excitement was immense as the ball trundled around and around. And the pay-offs were bliss! After a couple of successive coups against the house, I reckoned I should move on, in case the bouncers came after me.

Time to shoot Craps. Another game of high odds for those who want to get rich quick. It's a relatively complicated little game in which you are armed with a pair of dice. Again, the manual tells you everything you wanted to know about it, but were afraid to ask. Interesting to watch, but not the high point of the collection.

On to Video Poker - I like most video games, why should this be different? The odds were much more conservative and after the last battering it was just what I wanted. The odd flush or straight almost brought tears to my eyes, as the nice sedate game of poker gently restored my account. I left ahead with \$10120.

Gambling may be addictive, but *Trump Castle* is certainly more so. Not only that, it has probably saved me \$50,000 already. This game is a must for all compulsive gamblers and budding secret agents!

Review copy from Pactivision. RRP Amiga \$49.95, C64 disk only \$49.95. □



INTERNATIONAL



TEAM SPORTS



Luke Lynde continues our sporting theme with a look at *International Team Sports*. Was it a winner? Read on...

MINDSCAPE ARE AT it again, this time with a sport simulation comprising a bunch of events that might stretch your game playing abilities. There are many sport simulations on the Commodore 64, and a lot of them are very good! This is not one of them.

Before you begin any of the five events, you must select either one or two players from the games option screen and then pick your teams. Now it's on to picking athletes from a list to play in your teams' events. A bit of strategy is incorporated into picking athletes, a nice touch. Finally you choose the sports you wish to play and you'll be ready to get down to the physical work!

The five events are Water Polo, Soccer, Volleyball, 4x100 Track Relay and Swimming. You can play or practice an event and there's even a computer demo for your enjoyment. I don't think there's ever been a computer demo of sports in a sport simulation before, it's a good idea. The manual has 30 pages, and it features in-depth descriptions of the controls for each event and an easy to understand introduction.

The first thing I came across that I didn't like was the title screen. The music on it is very annoying and there's a long

delay before the option screen begins to load up. And to make matters worse, the loading is incredibly slow and I'm talking about the disk version! Now, about those events...

Water Polo places you in the murky depths of a swimming pool. Your aim is to score more goals than the opposing team within a set time limit of your choice. The pool takes up most of the screen space, with the scoreboard at the bottom. Game control is average and the scrolling (called "Flow Control" in the manual) isn't as unique as the manual says it is but it's very effective.

The game is broken into quarters, and there are penalties (like free throws) so you can't get out of hand. Much of the game is played in silence and the ball at times looks like a diamond. Your team comprises three players which you simultaneously control. Many of the events have this team technique. The graphics are also very average. An OK event.

Volleyball must be the most confusing event of the lot - sometimes I don't even know what's happening! The aim is to be the first team to win two sets, and to win a set you must lead by two or more points. There's hardly any sound and the graphics are really primitive.

Most of the screen shows the court, the rest showing the scoreboard. In this event they've also made the mistake of making the court too big.

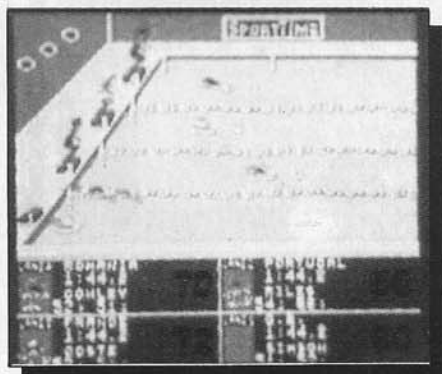
Soccer time, lads! Sad to say this is another "average sport" translation by Mindscape. And again you have some mediocre graphics and limited sound, but there is some nice scrolling. The view is side on and I think with a bit more effort this could have been the highlight of the package.

The 4x100m Track Relay lets you run 400 metres (controlling a different man each 100m) so as to beat the other competitors. About half of the screen is a overhead view of the track and the rest of the screen has the athlete's speed and so on. Not a bad event, but I've seen better on the Commodore.

The last event is swimming. The actual screen incorporates a side on view of the pool, some boxes with speed and profile status and that's about it. The graphics and sound are OK, but like most of the other events, it's only mildly playable. Not a particularly good event I'm afraid.

If you're looking for a good sport simulation, check out *World Games*, *Summer Games 2*, *Winter Games* or any other Epyx sport simulation for that matter. They're better than this. Some of the stuff was not bad, but it was more fun watching the Commonwealth Games on telly!

Review copy from Mindscape. RRP C64 \$49.95. □



Soccer & Squad

Luke Lynde dusts off his old datasette unit and puts on his soccer boots to check out this compilation of the greatest soccer games of all time. Well ... some of them are okay, anyhow.

WE ALL KNOW what the English like better than bacon butties, don't we?!

Yeah, it's soccer of course! Now you too can join in on the fun with a compilation of four soccer games, courtesy of Gremlin Graphics. There's *Roy of the Rovers*, *Footballer of the Year*, *Gary Lineker's Superskills* and *Gary Lineker's Superstar Soccer*.

In *Roy Of The Rovers* the "Melchester Rovers" soccer team have been kidnapped. That means it's up to you (Roy) to find your four other team mates so as to all play a fund raising match to save your famous soccer ground. Sounds easy, eh? Maybe not!

This is a adventure and soccer game all in one. The adventure comes in when you have to search for your team mates, where you are in a icon driven scenario similar to the one in *Zak McKracken*. You can talk, run, walk, smile and loads more. Utilising these many features to their full potential does tend to boost the gameplay somewhat.

When you finish the adventure section, you go onto the soccer section. As in the adventure part, the soccer features garish sprites, bad sounds and unconvincing gameplay. There are not even

any goalposts on the soccer field! A remarkably below average game - a good idea, a unique style of game, but not much else!

Gary Lineker's Superskills grants your computer man a very extensive training course. Life's tough, isn't it?! First of all there's the Gym section where you have to do push-ups, squat thrusts, weight training and monkey bars.

After breaking a few joysticks getting through those events, it's then onto ball juggling where you do something really amazing - you juggle balls. Ha! Ha! The last section is suitably called field work - dribbling, chipping, shooting and penalty shots.

Basically, the game just offers training and more training - which makes everything you do seem somewhat pointless, as you can't actually put your training into practice. It's not all bad though. You've got some nice graphics and sound, even if you do end up with very sore wrists.

The next game into my cassette deck is *Footballer of the Year*, a strategic game placing you in the role of a professional

soccer player. You are 17, you have 5000 English pounds, 10 goal cards and, well, let's face it - you're pretty damn lucky! The sole objective of this game is to become the "Footballer of the Year".

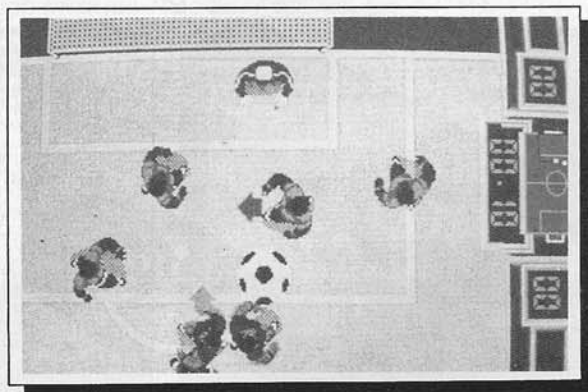
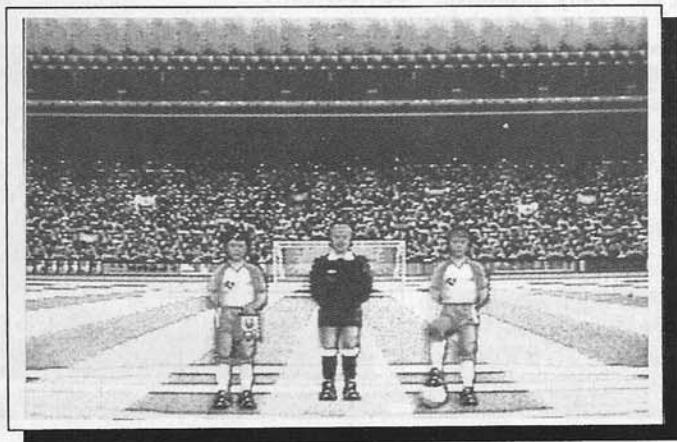
The game screen presents icons representing the state of your team, player status details, load or save a game options, quit a game, get incident cards and play a match.

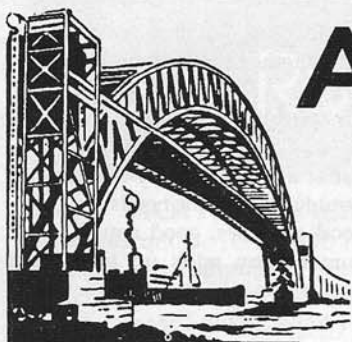
The more matches you play and win, the higher your ranking. Everything about the game is so competitive and addictive - it must be the excellent music that heightens the atmosphere! I love this game, it's better than the other three put together!

You've heard about *Gary Lineker's Superskills*, now here's its prequel called *Gary Lineker's Superstar Soccer*. This is your normal game of soccer with the demands of team management and coaching. Before starting you set up a league, choose a team name and the number of league games per season.

You have only one player to control for the whole match, and when you do get the ball you can pass or shoot in a number of different fashions. The gameplay is fast and the graphics and sound are sufficient, all in all it's an above average soccer game.

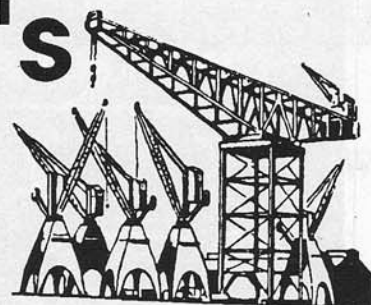
There you have it, the *Soccer Squad* compilation. It's a mixed bag of games really, ranging from bad ones to good ones. The best of the lot I think is *Footballer of the Year*. I can safely recommend this, but as I always say - "Look around first!" □





Adventurer's Realm

by Michael Spiteri



Bon giorno, adventurers! Welcome to the Realm, Australia's only column that deals with the adventuring world on all Commodore computers (ranging from the Vic-20 to the Amiga!)

For all your adventure and wargame problems, write to the following central address:

Adventurers' Realm
P.O. Box 351
Pakenham Vic 3810

Write to the above address if you want hint sheets, to discuss an adventurous topic, or even offer helps and hints!

If role-playing games (RPG's) are your kettle of fish, then Kamikaze Andy is always on hand to help you in this area (though he cannot supply hint sheets! Write to Kamikaze Andy in his Dungeon!

Realm's RPG Dungeon
44 Hawkesbury Dve
Willeton WA 6155

Remember to always enclose a stamped addressed envelope.

Adventurers Realm - now on BBS

● **Island Bulletin Board** in Victoria (03) 742 3993 have a special Adventurers' Realm section. I'll personally answer your problems if you are stuck. Membership is free, and the BBS is available 24 hours. All you need now is a modem! ☐

Ooze! -Dragonware/Amiga

THE LATEST HORROR game to slide into your disk drive is *Ooze!*

It's not every day you inherit a haunted mansion from your uncle. His autopsy states that Uncle Cheeseburger suffered death from misadventure, however you think otherwise. Convinced that the real cause of his death lies in the mansion, it is yours to investigate!

That basically sums up the plot. The game is really just another haunted house story - but this one is cleverly done.

The game features lengthy text descriptions that really set the atmosphere.

The descriptions are very well written, and you probably wouldn't know the difference if you were reading a novel.

On top of that you have some very nicely drawn graphics which pull up or down to display some or all of the text underneath. Occasional digitised sounds of laughter and doors opening complete the very eerie atmosphere presented in this adventure.

Throw in a great parser and you have the makings of a great game! Good ol' conventional adventure puzzles and downright brain-racking mysteries abide

Free hint sheets

Adventurers' Realm has free hint sheets available to everyone. Just select up to four hint sheets listed below, and send that, along with a stamped addressed envelope (S.A.E) to P.O. Box 351, Pakenham, Vic 3810, and you'll receive them as soon as possible (depending on stock).

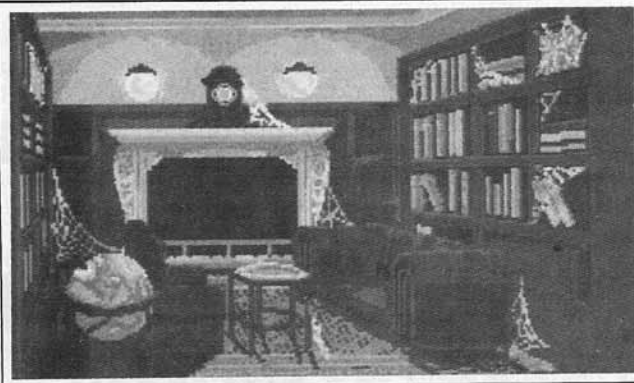
- **Bards Tale I, II, III**
- **Zork I, II, III**
- **Dracula**
- **Hitchhikers Guide**
- **NeverEndingStory**
- **Adventureland**
- **Borrowed Time**
- **Hampstead**
- **Fish**
- **The Pawn**
- **The Hobbit**
- **Lord of the Rings**
- **Castle of Terror**
- **Pirate Adventure**
- **Faery Tale**

Coming soon: Currently in the works is the Official Adventurers' Realm Hint Book, containing hints for most of the oldest and newest adventure games. Keep your eyes and ears peeled! ☐

in this story. You'll meet a friendly little imp who throws riddles at you, and a ghoul with a fiendish laugh who throws fireballs at you. There's a graveyard ghost who sucks out your life, and a suit of armour that reassembles itself after you break it up!

There is a mysterious girl whose beauty captures you from her portrait. As you explore her bedroom ghostly moans abound. Do they belong to the girl, or is Lancelot prancing around stirring up trouble?

Well, every good game has its downfall. *Ooze* has the uncanny habit of making decisions for you! You can find yourself opening clock doors, breaking jars



and cleaning up the mess, and sleeping, without actually typing anything on the keyboard!! Whether this is a bug or a bonus I'll let you decide.

I'd better add that the text is terribly hard to read if you are using a television!

Criticism aside, if you are after a good mystery that looks a lot like *The Pawn*, then *Ooze* should satisfy your needs.

In summary, great text, good graphics, good sound, good parser and pretty good documentation adds up to a great game.

Rating out of 100: 90.

Verdict: Ooze into your computer store and sample it!

Review copy from **Pactronics** (02) 748 4700. RRP \$49.95.

Legend of Djel -Amiga by Tony Smith

Legend of Djel is an icon driven graphic adventure game containing many puzzles and sub-games on a single disk (phew, no swappies) which will keep the dedicated adventurer on his toes for quite a while. Several different characters are featured in the quest, with the familiar theme of rescuing the kidnapped daughter of a Magician called Azeulisse and breaking the spell cursing the land with no children.

Sound easy? There are many lands to travel and some challenging puzzles to solve on the way. The Ocean of Pearl, Land of the Glades, Land of Everlasting Thirst, the Moving Lands, Kingdom of the Marshes and the Land of the Arch all conjure up images of exotic places which can be visited if your course is correct.

Spells and artifacts have to be gath-

ered and used to bribe and barter your way around this large adventure. Fun can be had with bartering, a nice touch is the spinning coins into the bag when you make an offer, beware though, you only have three attempts.

Bats can be caught and used to make gold and there are 'confrontation' scenes with either force or mind being the options. In a confrontation by force the opponent has to be destroyed by changing into various forms and blasting the other's power ball. Confrontation by mind is a different game with a chess flavour, the object being to isolate the opponent so he cannot move in any direction.

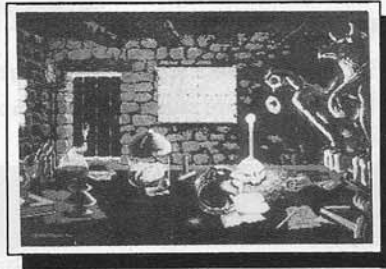
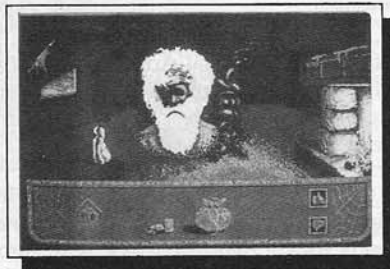
The intro to the game is well done with some clever screen clearing methods used and an exceptional dragon folding out from the centre of the screen to

finish. Based in Djel's den, the various puzzles start at the desk, there are implements scattered about such as a crystal ball, some stamina and power potion, a life candle, statuettes for visiting personages and a window.

Looking from the window sometimes gives surprises and if your memory fails there is a jar with the brain of a conquered dragon in it which acts as an inventory. Other countries can be visited and an atlas is available but hidden. Be careful when visiting the neighbours though, if you become bewitched in a foreign country you will be changed into a "Hideous stinking monster with no chance of getting out of your home again and your powers suspended."

Legend of Djel is a well written and large adventure, there are enough puzzles to assure long game life and with a few red herrings thrown in, it provides variation to keep up the interest. Graphics and sound effects are well up to Amiga standards with haunting yells and screams coupled with excellent artwork and colour combinations. Buy it and read the manual well - without it the game seems rather pointless, and it also contains some very valuable clues. Distributed by Pactronics and programmed by Tomahawk, *Legend of Djel* is tricky stuff, but very well done. I highly recommend it.

Review copy from **Pactronics** (02) 748 4700. RRP \$49.95. □



Problems, Problems, and More Problems (or the Troubled Adventurers Dept)

● Craig Wright of Epping in Victoria is stuck in a game called *Sydney Affair*.

A certain Diamond Network Computer System is keeping him puzzled. Can anyone offer help?

Pemjac of Mangerton in NSW is having great difficulty getting out of the first sector in the game *Hacker II*. Any help appreciated.

Sierra freak Luther Teng is stuck in three new Sierra adventures - *Leisure Suit Larry III*, *Gold Rush*, and *Hero's Quest*. He is also stuck in Cinemaware's *Rocket Ranger* and *Defender of the Crown*. Luther is just after some general hints and tips.

Andrew and James Dickson are really stuck badly in *Shadowgate*. They ask the following questions:

● How do you move the rope that is held in place by a magic force in the first stage in the chamber room?

● Where and what is the object that fits in the secret hole in King Doogan's throne room?

● What do you do with the wand with the serpent on it?

● How do you get the flute from the acidic fountain in the garden?

● How do you get past the cyclops without the help of a certain scroll that

makes you invisible?

● *It Came From the Desert!* That's the name of the game troubling Natalie Paine of Singleton in NSW. She has a number of problems:

● How do you actually get into the ants nest to kill Queenie?

● Why is there always trouble around the man at Neptune Hall?

● Who is the red-haired woman that comes to Greg's house?

● Why doesn't the cowardly mayor call out an alert as soon as you show him the evidence?

● In *Pool of Radiance*, Eddy Cheung of

Westlake in Qld wants to know how to clear the land at Sokol keep.

● In the first *Personal Nightmare* problem to ever rear its ugly head in the Realm, Steve Morgan wants to know if the safe can be opened, and how. Also, can the stone door under the manor be opened.

● Jon Dickins of Fairfield in Qld is stuck in the Delphine Software game *Future War*. He has reached the room with the photocopier at the end of the secret passage however he has not been able to use the machine without the alarm sounding and a guard appearing and

shooting the hero.

● Chris Morley of Broken Hill is stuck in *Caribbean Adventure* of the Eureka package. Chris writes: "I have a threefold problem with that namely the number pad on the door does not work. I tried 0000 to 10000 (which takes a long while!) and the door doesn't open. I cannot get through the office because the bridge keeps giving way and throwing me in to the Piranhas and the door at the other end is locked." Well, it seems Chris is up neck deep in problems, can anyone come to the rescue? □

Help, Help & More Help (Or the Smart Adventurers Dept)

THIS IS THE section where problems that appeared in the Troubled Adventurers dept a few months back get answered. Thanks to all who contributed to getting adventurers out of their miseries. Now, roll out the hints....

● **Game:** Ultima IV

● **For:** Stinger

● **From:** K. Kupresak

● **Help:** Find Roderick in Serpents Castle for he knows of Orbs!

An orb of blue light will raise your strength, dexterity, or intelligence but at a cost. You don't have to find orb to finish this game; I never found one but still completed the game. The candle of love is found in the Altar room in Cove. You first need to dispel the barrier that protects the secret door.

● **Game:** Zak McKracken

● **For:** Dave Pittaway

● **From:** K. Kupresak and Stuart George

● **Help:** Find the birds nest and use it in the fire pit with the branch and light to start the fire.

● **Game:** Ultima IV

● **For:** Bradley Wenman

● **From:** K. Kupresak

● **Help:** In hard dungeons such as those on the Abyss, you have to find the trigger square which triggers the trigger square.

Note: To explain this problem better, K. Kupresak has supplied maps to level 8 of the Abyss. Copies of these maps are available by sending a stamped addressed envelope to P.O. Box 351, Pakenham.

● **Game:** Kings Quest III

● **For:** S.K. Pillay

● **From:** Pemjac

● **Help:** Although 'mighty oaks from acorns grow', it's very much a chicken and egg situation. Oak trees definitely avoid sea air, being found somewhere on a north-south axis between very wet and very dry places. If all your acorns are green, try turning the tables on the robbers before gathering. As far as the lack of smooth stones is concerned, treasure is often hidden in dark and secretive places, but beware, any spider can trap a fly, but if you are clever, the predator will become the prey.

● **Game:** Maniac Mansion

● **For:** Walter Brank and Brendan Lewis

● **From:** Steve Morgan

● **Help:** Get the radioactive water from the swimming pool. Pour water on the man-eating plant but first use the can of Pepsi on plant. Climb plant and put dime in coin box. Push right button, put second dime in coin box, push right button again. Look through telescope. You will find extra dimes in piggy-bank. Make sure you have safe exposed. The staircase and chainsaw are irrelevant.

● **Game:** Zak McKracken

● **For:** Barbara Scott

● **From:** Steve Morgan

● **Help:** To open the pyramid you have to search the huge face on Mars for a drawing. If you are in the great chamber, the drawing is behind the left door.

● **Game:** Kings Quest III

● **For:** Lesley Robinson

● **From:** Eddy Cheung

● **Help:** When the wiard has gone to journey, go to the dining room in the wizards house and trap the cat into the corner. Then get cat, get cat fur.

● **Game:** Mortville Manor

● **For:** Noel McAskil

● **From:** Stuart George

● **Help:** Put the dagger in deep diamond shape in cellar - it reveals a passage! □

Corish's COMPUTER GAMES GUIDE HINTS, TIPS & POKES For your favourite computer

* Do you suffer from stress, ulcers or going grey from trying to solve the latest game? Then this is the book for you.

* Over 300 pages.

* Over 600 games.

* Over 150 adventures.

* Over 5,600 hints, tips and pokes.

* If you have a C64/128 or an Amiga this is essential for your games collection.

Distributed by
Pactronics.
Available from all
good book
stores, Computer
Spot (all
branches), Grace
Bros, Myer,
John Martins,
Harvey Norman,
Harris Scarfe,
Maxwell's Office
Equipment and
all good
computing
retailers.



Realm's Adventure Chit-Chat

● My review of the Adventure Gift Packs in the February issue prompted John Gordon of the HMAS Penguin naval base in Balmoral NSW to investigate further. John discovered that there was another gift pack offering six Scott Adams graphic adventures for \$49.95. Thanks for the info John.

● Chris Morley of Broken Hill is one of the many adventurers who wrote in suggesting I include some of the outlets where some of the games I review are available. Well, I'll give a free plug to any store that sends the Realm a list of adventures they usually stock, and I'll make sure the list is published in a future issue.

Realm's General Hints and Tips

● Stuart George has sent in the following casual tips...

BARDS TALE III: Help: In Malefia, go to where Tarjan is and cast DIVA once, and kill everything until you get 100,000 experience points. After he says - "Now I will personally kill you", and you face one Tarjan, run away and repeat this.

FISH: Help: To get the focus wheel, go to the library (in University) and look up the page with the focus wheel on it. Tear it out. Use the tatty card to get into your lab, put torn piece of paper in photocopier (in adjacent store room).

Grant McKinney sends in some hints for....

PHANTASIE III: Help: When starting up on new characters, pick your members for their skills, not their gold. A good starting combination is three fighters, a ranger, a thief (preferably dwarven) and a wizard with high strength and intelligence. The first thing to do is to go to the Pendragon Archives and beat up a few low level monsters until your party are all about third level and your wizard has learned some good spells. The best spells are fireflashes, flamebolts, mindblasts, sleep and awaken. Other spells come in handy, but should only be used when there are none of the above available. With your ranger you should get all

fireflash and healing.

Well, that's all for this month's Realm. Next month I'll be back with news and reviews of some classy Infogrames products.

Old problem of the month

● A new feature this month. There are many games that are no longer with us that have classic problems. So, send in your classic problems (with the solution - if possible). Someone will surely benefit!!

Remember *Mindshadow*? One particular problem at the end of the game had many an adventurer puzzled and perplexed! Grant McKinney has sent in some things to think about when you approach that particular puzzle:

Arcman, William, Tycoon, Bob Masters.

Realm's clever contacts

● I'll be printing the list of clever contacts in full in a few months. In the mean time, the latest addition is K.Kupresak of 44 Noarlunga Cres, Bonython, ACT 2905, who offers help in the following games:

- Ultima III, IV
- Bards Tale I, II
- Times of Lore
- Leisure Suit Larry
- Zak McKracken
- Leather Goddesses
- Wishbringer
- Legend of the Sword
- Kings Quest I

The Dungeon by Kamikaze Andy

Dungeon Review: **FIRE KING** (By Micro-forte / SSG)

● SSG is perhaps Australia's best known software developer and publisher. SSG is well known world wide for its excellent wargames, and especially for its sci-fi extravaganza *Reach For The Stars*.

With *Fire King*, the company seems to have leaned towards the arcade-adventure market. It is more of an arcade variation of the role-playing genre, rather than a full scale mind-boggling RPG.

I must state that the introductory sequence in the game is one of the most amazing I have seen on the C64. The music is fantastic, and the large detailed picture of the Fire King is nothing short of spectacular. The game is certainly full of atmosphere. The well written and funny manual also shows the effort taken by the guys at SSG.

The game itself puts the player (and a friend - because of the two player, option) on the quest to discover what happened to the Fire King. Apparently, after four great mages of fire, water, air, and earth had their usual annual pow-wow, some huge nasty from the depths suddenly appeared and attacked the congregation. The ensuing battle results in one very dead monster, but also sees the earth mage go cuckoo, the wind mage half dead, and the water mage lost without a trace (not even a puddle!). Oh yeah, the fire mage himself buys the farm (dead!).

The game really begins after the Fire King is buried; another nasty beastie decides to desecrate the poor mage's tomb, and it is your responsibility to first get rid of the beastie and then try to find out what happened to the other mages.

What with all of this detail in the plot, one would expect a role-playing game to rival *Ultima V*, however the programmers have decided to implement a *Gauntlet* type of system, and all of the features associated with *Gauntlet* are there - including keys, taps, vortexes, super-shots, etc. You even get some new features like bells, bombs, rings and magic boots. In effect, the programmers at Micro-Forte have produced a very arcade style R.P.G.

Also, there is a bug when you play the two-player version. If both players use different exits, the game just might crash!

Fire King is good for an arcade-adventurer, with its major strengths being the excellent plot and storyline. However I feel the use of this arcade system will now lure many hardcore adventurers to try it out.

Finally, some info I dug up about those programmers at Micro-Forte. Did you know that their previous effort (for Electronic Arts) was the *Gauntlet*-clone *Demon Stalkers*? I wonder why the obsession with *Gauntlet*? Even more weird, their first well known game (or could it be called program) was...wait for it...The Official America's Cup Sailing Simulation. No comment there, folks. □

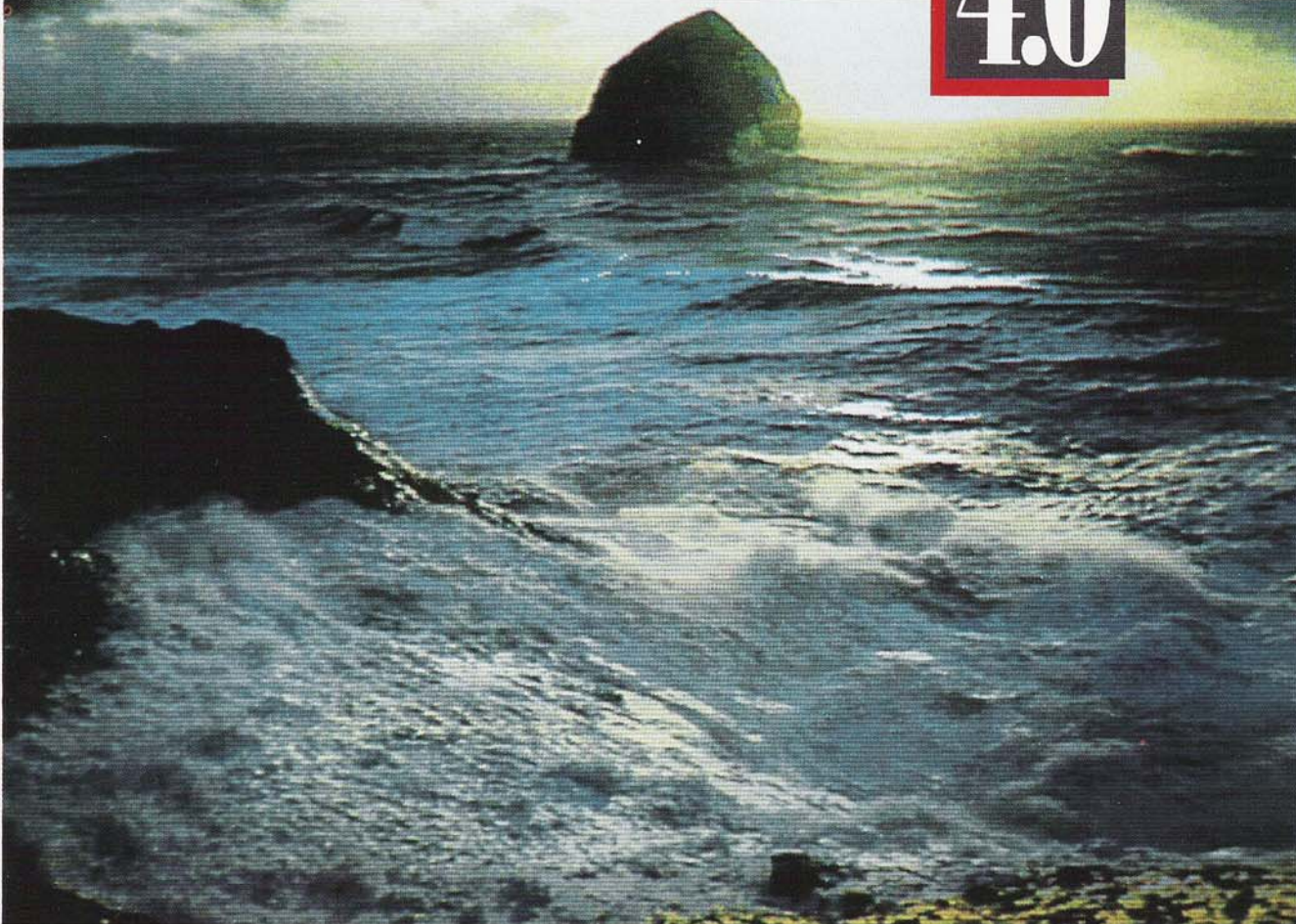
Advertisers Index

Amiga Live	42	Hard Disk Cafe	5,45	PCM Computer Design	35
Briwall	46,47	Harris Hi-Tek	4	Parcom	15
Cockroach	61	Home Entertainment	13, 19, 36/37, 41	Pelham	61
Commodore	7,16,50,57	Interlink	39	Power Peripherals	9
Commodore Annual	4	Island by Mail	61	Prime Artifax	56
Computer Discounts	32,33	Lazarus Ribbons	61	Romac Computers	23
Computermart	2	Logico	21	Roseneath	61
Computermate	IFC,IBC,49,52,53	Maxwell	43	South Pacific Radio	15
Computer Spot	24,25,26,27	Megadisc	54	XEL Pty Ltd	31
Desktop Utilities	20	Micro Peripherals	55	Subscriptions	3
Disk Magazines	54	Mindscape	OBC	Whites	6
ECP	29	Naycora	59,71		

DIGI-VIEW GOLD

4.0

This image was photographed directly from an Amiga 1080 Monitor and shows the new 4096 color Dynamic HiRes Mode available with Digi-View 4.0.



4096 Colors in High Resolution

Digi-View Gold, the best video digitizer for the Amiga, just got one hell of a lot better. With the all new Digi-View 4.0 software you can do the one thing most people thought was impossible—digitize and display all 4096 colors in high resolution! We call this revolutionary new graphics mode Dynamic HiRes and you will have to see it on your own screen to believe it. But that's just the start of what makes Digi-View 4.0 a breakthrough. Other new features include: Dynamic HAM (fringe free HAM), Noise Reduction (for the sharpest images ever), ARexx support, super bitmap digitizing (directly into Digi-Paint 3), 24 bit color support, 68020 compatibility and dozens of other new features making Digi-View Gold the hottest Amiga graphics product ever.

It's still just as easy to use as before. Simply focus your video camera on any object or picture, and in seconds Digi-View Gold turns it into Amiga graphics that glow with vibrant color and stunning clarity. Whether you are creating graphics for desktop publishing, presentations, video, or just for fun, Digi-View Gold gives you dazzling images with amazing simplicity.

Digi-View Gold is designed specifically for the Amiga 500, 2000, and 2500, and plugs directly into the parallel port. With complete software control of color saturation, brightness, sharpness, hue, resolution, and palette, advanced image processing is as easy as adjusting the

controls on your television.

If you want the best graphics possible for your Amiga, then you need the best selling video digitizer of all time: Digi-View Gold.

Only Digi-View Gold:

- Can digitize in all Amiga resolution modes from 320x200 up to 768x480 (full-HiRes overscan)
- Uses 2 to 4096 colors (including extra halfbrite)
- Uses exclusive Dynamic modes for 4096 colors in HiRes
- Is 100% IFF compatible and works with any graphics software
- Can digitize in 21 bits per pixel (2.1 million colors) for the highest quality images possible
- Has advanced dithering routines that give an apparent 100,000 colors on screen simultaneously
- Has powerful image processing controls for complete IFF picture manipulation



Distributed and Supported in Australia by:

COMPUTERMATE
products (australia) pty. ltd.

P.O. Box C64, Mt. Kuring-Gai, N.S.W. 2080.
Phone: (02) 457 8118 Fax: (02) 457 8739.

\$299.00

Sugg. Retail

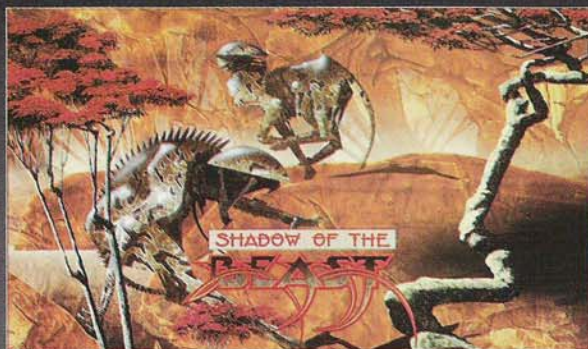
NEWTek
INCORPORATED

*Requires standard gender changer for use with Amiga 1000. Digi-View Gold, Digi-Paint 3 and Video Toaster are trademarks of NewTek, Inc. Give a man a VCR and he can watch reruns, give him a Video Toaster and he can make his own!

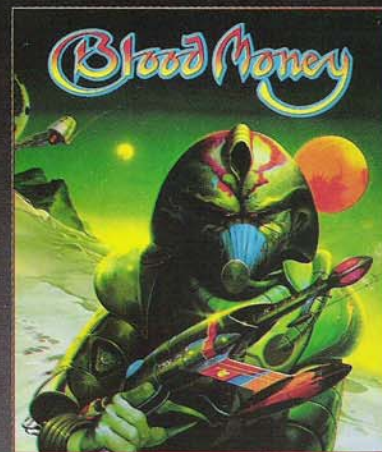
PSYGNOSIS



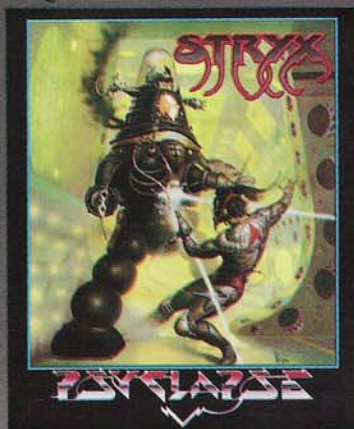
Amiga & ST



Amiga only



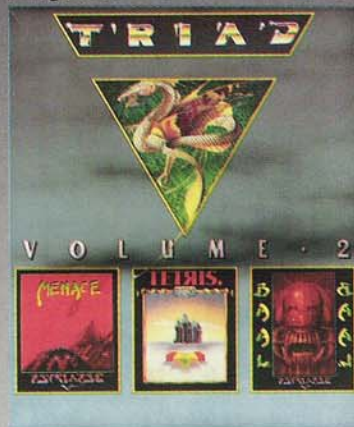
PC only



Amiga & ST



Amiga, ST, PC



Amiga & ST



64 D & C, PC

CHRONO QUEST II

COMING SOON

Amiga ST PC

15 GAMES TO BE WON

TO BE ONE OF THE LUCKY WINNERS PLEASE SEND
THIS COUPON TO MINDSCAPE INT, 5-6 GLADSTONE
RD, CASTLE HILL, NSW 2154, AND SAY IN 25
WORDS OR LESS WHY YOU CHOOSE TO PLAY
PSYGNOSIS PRODUCTS

Name _____

Address _____

Postcode _____

Phone No: _____ Age: _____

Machine Type _____



Distributed by
Mindscape International
5-6 Gladstone Rd Castle Hill, NSW 2154
Phone: (02) 899 2277
Fax (02) 899 2348